The Republic of Moldova

Ministry of Economy and Trade

Competitiveness Enhancement Project Additional Financing
(New Credit Line)

Environment Management Framework

Volume I Main text

July 21, 2009

Prepared by Tatiana Belous, PhD
Environment Management Framework’s Content

Volume I. Main text

Executive Summary
1. Introduction
2. National Environmental Assessment Policy and Regulatory Frameworks, and Procedure for Environmental Assessment
3. Country’s Environmental Management Institutional System
4. World Bank Environmental Assessment Policy, Rules and Procedure
5. Country’s baseline conditions
6. Project Description
7. Analysis of Potential Environmental Impacts
8. Environmental Guidelines
9. Pest Management Issues
10. Institutional Arrangements for Environmental Management Framework implementation
11. Training and Capacity Building
12. Monitoring Activities
13. Budget
14. Environmental Management Framework’s Disclosure and Consultation

Volume II. Annexes

Annex A. Environmental Screening Checklist
Annex B. Content of the Environmental Management Plan
Annex C. Impacts, Causes, Consequences and Mitigation measures for sub-projects in Agricultural Production Sector
Annex D. Impacts, Causes, Consequences and Mitigation measures for sub-projects in Agro-processing & Food production Sectors
Annex E. Impacts, Causes, Consequences and Mitigation measures for Contraction activities & sub-projects in Manufacturing Sector
Annex F. Recommended structure of a Pest Management Plan
Executive Summary

1. **Project objective.** Competitiveness Enhancement Project (CEP) aims to help the Government to continue business regulatory reform and to commence modernization of the national standards and quality system, all together, leading to improved competitiveness of Moldovan economy in international markets and its attractiveness for FDI. The additional financing under a New Line of Credit Component of the Project will build upon and expand the existing CEP activities, with the overall objective of facilitating growth of export-oriented manufacturing, agricultural production and agro-processing sectors.

2. **Project description.** The Component will provide funding to qualified banks for on-lending to eligible exporting enterprises in support of their working capital and investment financing needs. The funding will be provided not to any particular sub-sector and it will be open to all enterprises meeting financial eligibility criteria. Based on the demand analysis and taking into account other line of credits already available in Moldova, it is expected that most sub-projects will be with large and medium-size companies in manufacturing, agricultural production and agro-processing sectors.

3. **Location.** The sub-projects to be supported by the New Line of Credit Projects’ Component will be identified and screened during the implementation stage. The sub-projects will be implemented countrywide based on demand for proposed activities.

4. **Project category.** In accordance with the Bank’s safeguard policies and procedures, including OP/BP/GP 4.01 *Environmental Assessment*, the New Line of Credit Project’s component relates to the Bank’s FI Category which is applied to all proposed projects that involve investment of Bank funds through a participating financial intermediary (FI) to be used for subprojects environmental impacts from which cannot be determined during appraisal of the World Bank project. For a FI operation, the Bank requires that FI screens each proposed subproject to ensure that subproject beneficiaries carry out appropriate EA. Before approving a subproject, the FI verifies (through its own staff, outside experts, or existing public institutions and agencies) that the subproject meets the environmental requirements set by current national legislation and is consistent with the Bank's OP/BP/GP 4.01. For such projects it is necessary to prepare an Environmental Management Framework (EMF) which would specify all rules and procedures for the subprojects EA. The project EMF was prepared by an independent local consultant using the existing World Bank Safeguard Policies and procedures for FI projects as well as national legal and institutional frameworks for environmental management in this regard.

5. **Purpose of Environmental Management Framework.** The purpose of the Environmental Management Framework was to provide the World Bank’s and national rules and procedures for project Environmental Impacts Assessment (EIA), identify the significant environmental impacts of the project (both positive and negative), to outline rules and procedure for the sub-projects environmental screening and to specify appropriate preventive actions and mitigation measures (including appropriate monitoring scheme) to prevent, eliminate or minimize any anticipated adverse impacts on environment. The EMF final report was prepared based on the following: (i) analysis of the existing national legal documents, regulations and guidelines; (ii) World Bank safeguard policies, as well as other guiding materials; (iii) existing EMFs for similar World Bank projects; and (iv) results of consultations with the representatives of stakeholders and all interested parties.
6. Moldovan Regulatory framework for EA. Moldova has in place well developed EIA system and environmental legal instruments and technical standards which will be applied for the Project implementation. The national EA regulatory framework is generally in line with World Bank rules and procedures. Furthermore, Moldova has a good record in implementing projects for various infrastructural projects from agricultural production, agro-processing and manufacturing sectors, and in fulfilling of the EIA requirements.

7. Institutional framework and capacities to perform safeguards. The evaluation of the EA institutional capacity has shown that national institutions and implementing entities have relevant capacities to perform its duties concerning reviewing EA studies and enforcing the EMF provisions. The Project will support additional information dissemination and training activities to ensure the environmental requirements and the EMF provisions would be fully implemented.

8. Potential environmental impacts. The project might support different types of activities, including industrial, agricultural production, and agro-processing subprojects. Several of them (e.g., major expansion, rehabilitation, or modification of industrial plants) might cause significant environmental impacts which fall under the Category A projects and for which a full EIA would be required. However, majority of projects/projects components would fall under the Category B projects (agro-industries (small scale); rehabilitation, maintenance, and upgrading projects (small scale); rehabilitation or modification of existing industrial facilities (small scale), etc.) which might cause less significant impacts, for which the Bank required a simple Environmental Assessment and/or preparing an Environmental Management Plan. It is also expected that many of supported subprojects will not have environmental impacts and will fall under the Category C projects. Generally investments in agricultural production, agro-processing and manufacturing sectors, are not expected to cause significant adverse environmental and social impacts; they will not be located in protected areas, critical habitats or culturally or socially sensitive areas. Their potential adverse environmental impacts might summarized as follows: (a) agricultural production: soil erosion, loss of soil productive capacity, soil compaction, soil pollution, surface and underground water pollution, loss of biodiversity; (b) agro-processing: contribution to surface water pollution, wastes generation, odor; (c) manufacturing: air pollution, waste waters, solid and toxic waste generation; (d) construction: soil and air pollution; acoustic, aesthetics impacts, etc. All these impacts are expected to be easily mitigated through a good projects design and implementation practices.

9. Potential social impacts. The sub-projects to be implemented under the New Credit Line Project Component will generate a great number of both direct and indirect positive impacts. Direct positive impacts will be generated by increased production, products and goods which would result in creation of new jobs and respectively, more employment and increased income. Indirect positive impacts will relate to overall improving of business environment, increased exports and secured enterprises domestic market position, introduction of advanced technologies and techniques, creating new opportunities for access to foreign markets, enhancement competitiveness of domestic production and products, contribution to poverty reduction and food safety, and improvement of country’s socio-economic conditions.

10. Environment Management Framework (EMF). The document outlines environmental assessment procedures and mitigation requirements for the subprojects which will be supported by the CEP. It provides details on procedures, criteria and responsibilities for subprojects
preparing, screening, appraisal, implementing and monitoring. The document also includes Environmental Guidelines for different types of proposed subprojects providing analysis of potential impacts and generic mitigation measures to be undertaken for subprojects in agricultural production, agro-processing and manufacturing sectors at all stages - from identification and selection, through the design and implementation phase, to the monitoring and evaluation of results.

11. **Monitoring Plan.** The EMF provides a monitoring plan format which considers monitoring indicators, timing, methods, institutional responsibilities, etc. in all phases of projects’ implementation. The EMF also provides the list of institutions to be involved in the projects’ environmental monitoring, their responsibilities, and parameters to be monitored.

12. **EMF disclosure and consultation.** The Project Implementation Unit (PIU) has disseminated the draft summary EMF to the Ministry of Economy and Trade, Ministry of Ecology and Natural Resources, and other relevant ministries for their review and comments, and also, on June 9 2009, the document was posted on websites of the Ministry of Economy and Trade (www.mec.gov.md) and Regional Ecological Center (www.rec.md) for its access to wide public. On June 17 2009, the PIU has organized a consultation on Draft Environmental Management Framework. After the consultation, draft EMF document was revised to consider inputs from consulted parties. On June 18, 2009, the final draft EMF was posted on the website of the Ministry of Economy and submitted to the World Bank for its disclosure in Infoshop.
1. Introduction

1.1 Purpose of Environmental Assessment

The overall objective of the Competitiveness Enhancement Project (hereafter: CEP) is to assist Moldova in enhancing competitiveness of enterprises through improvements in the business environment, enhancing access to finance, and making adequate standards, testing, and quality improvement services available to enterprises. Its implementation will promote the creation in Moldova a competitive business environment that would contribute to maintaining macroeconomic stability, establishing sustainable economic growth and generate employment.

The New Line of Credit Project’s Component will provide funding to qualified banks for on-lending to eligible exporting enterprises which will be open to all enterprises meeting financial eligibility criteria. It is expected that most sub-projects will be with large and medium-size companies in manufacturing, agricultural production and agro-processing sectors. It will build upon and expand the existing CEP activities, with the overall objective of facilitating growth of export-oriented sectors.

The Project falls under Category FI projects (Financial Intermediary) since it involves investment of Bank funds through a financial intermediary. In accordance with the World Bank Operational Policies (OPs) and national EIA procedures, sub-projects to be funded under the Project that may have potential environmental impacts would require full EIA or some Environmental Assessment/ Environmental Analysis. Since Project funds can be applied to a number of sub-projects (to be specifically identified and designed at a later stage), it is necessary that the project beneficiary and the FIs have the capacity to conduct satisfactory environmental assessment and evaluate their quality and compliance.

1.2 World Bank Environmental Assessment Requirements

The Bank undertakes environmental screening of each proposed project for which it will provide funding in order to determine the appropriate extent and type of environmental assessments (EA). The Bank classifies a proposed project into one of four categories, depending on the type, location, sensitivity and scale of the project and the nature and magnitude of its potential environmental impacts. The four EA Categories are A, B, C, and FI. Category FI is applied to all proposed projects that involve investment of Bank funds through a participating financial intermediary (PFI) to be used for sub-projects of which the environmental impacts cannot be determined during appraisal of the World Bank project. Thus the CEP project is considered as FI project. The financial intermediary is required to screen proposed sub-projects and ensure that sub-borrower presents an appropriate EA for each sub-project, where warranted. Before approving a sub-project, the Project FI verifies that it meets the national environmental protection requirements and is consistent with the Safeguard and Operational Policies (OP) of World Bank.

2. National Environmental Assessment Policy and Regulatory Frameworks, and Procedure for Environmental Assessment

The national legal basis for environmental protection is fairly comprehensive. It includes a set of environmental laws and regulations and there is a general opinion that this existing body of laws,
governmental and ministerial decrees, official rules and standards is a sufficient base for effectively addressing the country’s environmental issues. Nevertheless, being under the European choice, Moldova is continuously improving legal frameworks towards approximation with European legislation. Within last years there were adopted a series of new laws such as Law on the National Ecological Network, developed a new version of the Water Code which aims to establish a legal base for implementation of the Water Framework Directive in Moldova; there was approved the new system of Surface Water Quality Standards, which comprises three principal components: a use-base hierarchical (i.e., ranked in order of decreasing water quality) classification of water bodies; list of water pollution parameters to be regulated, consistent with the existing monitoring capacity and pollutants relevant for Moldova; and numerical values of water quality standards for each class of water quality; in conformity with the EU Urban Waste Water Treatment Directive, there was developed and approved by the Government a Regulation on Discharges of Municipal Wastewaters into Natural Watercourses, etc.

2.1 National Environmental Policies, Strategies and Programs

Concept of the Environmental Policy (2001). This document approved by the Parliament has the following main goals: prevention and mitigation of negative impacts on the environment, natural resources and public health in the context of national sustainable development, and ensuring the ecologically safety.

Concept of the National Water Policy in Water Resources Management for the period 2003-2010 (2003), - calls for an integrated water resources management, including the creation of an appropriate regulatory basis, to develop a national strategy to implement EU concepts of classification of water bodies and differentiation of water quality requirements based on the type of water use.

National Strategy and Biodiversity Action Plan (2001). The Biodiversity Conservation Strategy and Action Plan describes the goal, objectives, main directions of activity, problems and the existing gaps at the geosystem, ecosystem, specific and genetic levels and formulates the principles (general and specific) of biodiversity conservation. The Action Plan aims to protect forest, steppe, meadow, petrophyte, aquatic, marsh and agricultural ecosystems, to conserve ex-situ species and biodiversity, and to restore grasslands. The Strategy identifies also economic, financial and institutional policies and other requirements for the efficient implementation of the Action Plan

Strategy for Development of Industry until 2015 (2006). The main goal of the Strategy is to create effective, competitive, technologically advanced industrial sector which would correspond to the European standards. The Strategy was developed in conformity with the main principles of the European Commission basic “Industrial Policy in an Enlarged Europe”.

National Program “Moldovan Village” (2005-2015) (2005). Its objective is to intensify public investments in rural areas, and create conditions for regional development and environmental protection. The major targets are: sustainable economic growth in agricultural and non-agricultural spheres; poverty reduction in rural areas; rural infrastructure reconstruction and development; reforming of agricultural sector (optimization of agricultural entities, new
technology, etc.); introducing of international standards and agro-production variables as well as environmentally friendly agriculture.

National Development Strategy for the years 2008-2011 (2007). The Government’s current strategy for poverty reduction for the period until 2011 was set out in the newly developed National Development Strategy, which replaced Economic Growth and Poverty Reduction Strategy Paper (EGPRSP). The Strategy’s development derived from the need to further pursue the reforms initiated in two important strategic planning documents – the Economic Growth and Poverty Reduction Strategy Paper (EGPRSP) and the Moldova-European Union Action Plan (MEUAP). The National Development Strategy starts from the basic objective derived from the Constitution of the Republic of Moldova and namely, establishment of adequate conditions for improving the quality of life. At country level, this implies a deep transformation and modernization of the country towards accession to the EU.

National Program on Ecological Safety (2003). Ecological safety is such a state of environment when majority of natural and anthropogenic impacts do not cause changes which immediately or afterwards may result in degradation of environmental ecosystems and affect adversely on human health. As compounds of ecological safety are considered sectoral impacts (industry, agriculture, power engineering, transport etc.), general types of activity (transboundary contamination, wastes generation), extremal situations (floods, landslides) and organizational activities (monitoring, risk assessment, ecological insurance, prevention and warning system, international and regional cooperation) and described actions to be taken to secure ecological safety.

Concept of Sustainable Development of Localities in Moldova (2001). The main goal of the Concept is to promote introducing of principles of sustainable development in the process of preparing of documentation on town-planning and territorial development and its implementation by means of protection, conservation or evaluation of the national heritage value, and evaluation and rational use of natural resources.

Energy Strategy until 2010 (2000). The strategic goals of the energy policy are: increase of energy efficiency and energy supply, ensure of energy safety and environmental protection. In relation to the field the Strategy focuses on introducing of low polluting energy technologies aimed at prevention and minimizing of environmental pollution.

National Program on Use of Industrial and Consumption Wastes (2000). The main objectives of the Program are: use and neutralizing of existent wastes minimization of wastes accumulation; excluding form use toxic raw material, and decrease of volume and toxicity of wastes up to their exclusion from technological processes.

Strategy for Development of Agricultural Sector in 2006 - 2015 (2006). Its objectives are to: (i) increase value-added production; (ii) increase processed agricultural products; (iii) increase the quality and competitiveness of agricultural products; (iv) enable Moldovan agricultural products to reach international markets; and (v) endeavor to maintain agricultural incomes at or above the 85% of average national income, (vi) minimization of the negative impacts from agriculture on environment. Tasks identified to attain these objectives include: annual increases of five to seven per cent in agricultural production; a focus on value-added commodities; an overall increase of
20% in processed agricultural products; and an annual increase of 10% in organic agricultural production.

2.2 Environmental Laws

This section describes the laws which may have a relevance to environmental management of sub-projects to be supported by the CEP.

*Law on Environmental Protection (1993).* This is a basic law that provides general framework for the environment protection in Moldova and options for sustainable development. The central environmental body shall (art. 16): i) conduct state environmental expertise which is its exclusive area of responsibility and competence; ii) prohibit/or suspend the construction and reconstruction of industrial, agricultural and other activities which exploit natural resources; and likewise to other activities that are in defiance of environmental legislation. State Ecological Expertise should be conducted (art. 21) for: i) construction, extension, reconstruction and modernization of any economic and social activity (administrative and military activities are exemptions) that may cause an impact to the environment. Expertise must be conducted (art. 22), among other activities, for: i) hydro technical installations, dykes, irrigation and drainage systems; ii) establishment of vineyards and orchards in zones with water protection schemes; iii) production, sale and use of pesticides and other toxic substances; iv) any other activity that may have a negative effect on environmental quality.

*Law on Ecological Expertise and Environment Impact Assessment (1996).* The law determines goals, objectives and principles of Ecological Expertise and Environmental Impact Assessment, as well as fundamentals of both procedures. The Law describes in details Environmental Impact Assessment procedures, demands the reporting, rules of complying and submission of documentation on Environmental Impact Assessment, public involvement, revision of Environmental Impact Assessment documentation, rules for conducting of the state ecological expertise. Ecological expertise is a part of a complex of activities toward environment protection through which the potential impacts on environment from planned economic activity, compliance of parameters of these activities with legislation and normative acts, norms and standards in force are identified and mitigated. According to the Law, project documentation for the objects that may adversely affect environment is a subject of state ecological expertise which in turn determines whether it complies with environmental protection requirements. Decision on ecological expertise can be considered as the basis for approval or refusal of the project. Ecological expertise is conducted prior to making decision on planned economic activities, and is mandatory for all economic activities which may have likely negative impact on environment regardless their destination, ownership, investments, location, source of financing etc. In case the objects can affect severely environment, their planning documentation is a subject of Environmental Impact Assessment (EIA) to be conducted prior to Ecological Expertise. The EIA/SEE documents shall also include, i) a comparison of alternatives and justification for the selected alternative, ii) mitigation measures and conditions to avoid or minimize impacts. These impacts have to be considered during all stages of the project including construction, operation and decommissioning. Public ecological expertise may be organized and conducted on the basis on initiative of officially registered public organizations/ associations. However, until approval from Central Environmental Authority, the results of the public ecological expertise are considered as ones having a recommendation character.
**Water Code (1993).** This law establishes the right of the state to determine water use (art. 1). It provides the general legal framework for water use, control and protection. Protective measures must be provided for the location, construction and operation of any developments or activities regarding water bodies. For natural and juridical persons it is prohibited to construct and put into operation objects that did not pass ecological expertise, or that are not equipped with water-protective facilities. Construction and operation of developments without water protective measures and procedures and without approval through ecological expertise is prohibited. The law subdivides water consumption into general and special uses.

**Land Code (1991).** The Land Code establishes relations and rights of land ownership and the basic framework of land use. Art. 5 states that land conservation should be a priority while implementing any kind of activities. Art. 23 is particularly important because it stipulates cases of termination of land rights, including use of the land in ways that result in soil degradation, chemical and other pollution, deterioration and destruction of ecosystems or their components. The obligations of the land owners (art. 29) are: use of land to conform to its intended and planned use, observe conditions of land exploitation, to ensure structure of crop rotation to conform to good agricultural practices, to apply chemical inputs only to recommended levels and to provide protection and improvement of soil fertility.

**Forest Code (1997).** The Law aims to regulate housekeeping of the forest fund through its rational use and regeneration, forest defense and protection, maintenance, conservation and improvement of forest biodiversity towards to ensure current and future needs of society for forest resources.

**Code on Mineral Resources (2009).** This new Code adopted has replaced the old Code on mineral resources as of 1993. It provides improved regulatory frameworks for mineral resources management to ensure scientifically substantiated, rational and complex use of mineral resources to ensure their long-term availability for the national economy, and establishes responsibilities physical and juridical persons in the field.

**Law on Water Protection Strips along the Rivers and Water Bodies (1995).** The law establishes the rules for creation of water protection zones and strips along rivers and water bodies, the regime of their use and protection. The law determines: (i) dimension of protected zones and strips; (ii) water protection regime (permitted economic activities) within the water protection strips, etc. According to the Law, use of pesticides is restricted on the strip of 300 m width along the river bank; ii) siting of livestock farms, septic tanks and solid waste from livestock farms, location of technical services stations, machinery and transport wash, location of municipal and industrial waste disposals, and irrigation by sewage is to be controlled with respect to distance from river bank.

**Law on Air Protection (1997).** The main objectives of the Law are maintenance of clean air, improvement of air quality, prevention and mitigation of harmful physical, chemical, biological and radiological impacts on air quality, and accordingly protection of human health and environment.

**Law on Natural Resources (1997).** This law provides the basic principles of natural resource management and use. The legal act includes, among others, provisions for “natural resource use..."
pay” and “pollution pay” principles and other economic mechanisms aimed at improving of economic entities’ production technology to minimize utilization of natural resources and enhance their protection and encouraging environmentally friendly economic activities.

The Law on Taxes for Pollution of the Environment (1998). This Law refers to the penalties for the discharge of pollutants into the environment. Art. 9 (1) describes the penalty charges for pollutants released from waste water discharges both to water bodies and effluents into sewerage systems where such discharges exceed established limits. Part (2) indicates that penalties for pollutants released into sewage facilities and on filtration fields are to be imposed on the base of the total volume of water allocation. Part (3) describes the penalty for release of water from fish ponds in the case of excessive volume of pollutants. Annex 6 of the law provides norm for counting of fees for pollutants released from cattle, pig and poultry farms into septic tanks; annex 7 - for collection and storage of other solid wastes, including toxic.

Law on Licensing of Certain Kinds of Activities (2001). The Law aims at ensuring of the state control over compliance with requirements and conditions to be adhered while fulfilling certain activities. It determines legal, organizational and economic basis for certain kinds of activities and establishes kinds of activities which require permits. The List of activates liable to licensing includes: ecological control, exploitation of deposits of mineral resources, import and sale of chemical and biological means of plant protection; collection, storage and processing of used accumulator batteries, and design of all kinds of buildings and reconstruction works, capital repairs, etc.

Law on Animal Kingdom (1995). The main purpose of the law is creating conditions for effective protection and rational use of fauna resources. The law determines that design and construction of any facility should be implemented only if animal protection measures (habitat, reproduction, and migration ways) are undertaken. Art. 13 stipulates that sites of construction of enterprises, facilities, installations and other objects are co-ordinated with Ministry of Ecology and Natural Resources, with local public authorities and other agencies; Art. 14: while carrying out of agricultural and construction works, exploitation of transport and implementing of other activities physical and juridical persons are obliged to undertake measures toward prevention of animals losses.

The Law on Plant Protection (1999). This law, among others, establishes (art. 14) the requirement of those responsible for the storage, transportation, selling and use of pesticides used for plant protection to observe the stated rules and norms for such. As well, the law bars environmental pollution and other negative impacts that such may have on man and animals.

Law on Regime of Harmful Products and Substances (1997). The Law establishes role and responsibilities of the Government and other central and local authorities in relation to harmful products and substances, and describes the regime of harmful products and substances (licensing, production, storing, transportation, use, registration, neutralisation, import and export).

Law on Law on Production and Consumption Wastes (1997). The Law provides basic principles in the field of waste management generated during the process of production and consumption, and aims to reduce wastes and prevent environmental pollution. The Law Art. 17 (2) stipulates that construction and put into operation new and reconstructed enterprises and other objects not
provided with equipment and technologies ensuring safe use, treatment and removal of wastes and not provided by a positive decision from ecological and sanitary-epidemiological expert services are prohibited. Art.18 describes the requirements regarding wastes disposals, i.e., disposal and storage of wastes is executing by means not affecting the human health and environment.

The Law on Local Public Administration (2002). The Law determines the areas of activity of local public authorities which administer and control within their territorial units land use and the use of natural resources. Local public authorities are responsible for observing national legislation within their area of domain.

Law on the Fund for Natural Areas Protected by State (1998). This law establishes the list of objects/areas under state protection, protection regime and buffer zones around protection objects/areas.


Law on Quality in Construction (1996). This law determines juridical, technical, economic and institutional aspects related to the construction activities related to the quality in construction. The Law stipulates that the constructions next requirements should be ensured: resistance and stability; fire, hygiene and environmentally safety, etc.. Art. 13: construction, modernisation, strengthening, repair/ renovation are implemented only in accordance with project documentation worked out by physical and juridical persons authorised for such kinds of works and verified by authorised specialists in the field; Art 14: design and construction of buildings is implemented by physical and juridical persons licensed for activity in the field.

The Law on Basics of Town-planning and Territorial Development (1996). This law relates to planning, location and construction of buildings, including any modifications to buildings. Art. 6 (3) states that documentation for town-planning and territorial development establishes location of land zones and rules for their use. Town-planning certificates and permits for construction are issued on the basis of this documentation. For construction purposes based on approved documentation, art. 52 stipulates that local public administration shall provide permits for operations and also for any changes of operation location. Assessment of potential environmental impacts of above activities and developments, and the provision of ecological expertise is to be conducted in accordance with the Law on Ecological Expertise and Environmental Impact Assessment.

Law on Sanitary-Epidemiological Protection of the Population (1993). It is an umbrella law ensuring sanitary-epidemiological safety of the population. Art. 10 indicates that planning and construction should envisage a creation the most favorable conditions for living and health of population, improvement of localities, prevention and liquidation of harmful effect of environment on human health. Art. 19 requires that while exploitation of industrial and public buildings and equipment, the favorable work and relax conditions should be ensured. Art. 30 declares that administration of state enterprises and owners of private entrepreneurs are
responsible for ensuring of established sanitary rules in the production process and for implementation activities toward environmental pollution prevention.

*Law on fish reserve, fishing and fish-farming (2006).* Most of national natural water streams, lakes and reservoirs are classified as fish-water. It is prohibited by the law: (i) discharge to the fish water of un-treated waste water, (ii) use of fertilizers, pesticides and other chemicals on the water bodies and at the banks (300 m), (iii) lowering of water level or use water for agricultural purposes without permit issued by Fishery Service under the State Ecological Inspectorate, (iv) abstract water without fish protection installations, etc.

*Law on State Land-Tenure Regulations, State Land Survey and Land Monitoring (1992).* Art. 2: main principles of state land-tenure regulations are: use of land resources for society’s benefit; introducing of advanced methods of economic activity; Art. 20: among functions of the State Land-Tenure Regulations Service are: substantiation and delimitation of land plots’ boundaries; development of projects on land demarcation for its put into use; regulation of existent lands’ boundaries; delineation of plots and preparing of documents for land render into use etc.

*Law on Safety of Dangerous Industrial Objects (2000).* The Law establishes legal, economic and social aspects of safety operation of dangerous objects/ enterprises and focuses on prevention of industrial accidents, stoppage actions, minimisation and liquidation of accident consequences, and protection of environment and population. Art. 9: technical installations/ devices used at dangerous objects/ enterprises shall be a subject of compulsory certification on compliance with industrial safety requirements in accordance with established order (enclosure No 1 to the Law explains that as dangerous industrial objects are considered those technical installations disruption of which can cause an accident).

*Law on Secondary Material Resources (1996).* The Law determines basic juridical, economic and institutional requirements related to the secondary material resources and aims at ensuring of rational use of natural resources. The economic entities are required (i) to use the environmentally clean production facilities, (ii) to make an inventory and to register industrial and domestic wastes, and submit reports to the statistical offices, (iii) re-utilize own wastes as much as possible, but if not possible, to transport wastes to special organizations dealing with collection or re-utilization of wastes. Art. 9: while designing, constructing and reconstructing of all enterprises the following must be ensured: use of low-wasting, non-wasting and ecologically clean technologies; development of waste treatment facilities attached to enterprises.

*Law on Access to Information (2000).* The Law regulates different aspects of informational management, including relations between providers and consumers of information; principles, rules and regulations of informational exchange and provision for that; aspects of personal requests and confidentiality; protection of rights of providers and consumers of information.

### 2.3 International Conventions

Moldova is a party to about 26 International Environmental Conventions. Among them are the following:
Convention on Environmental Impact Assessment in a Transboundary Context (Espoo, 1991); ratified in 1993;
Convention on the Conservation of European Wildlife and Natural Habitats (Bern, 1979); ratified in 1993;
Agreement on the Conservation of African-Eurasian Migratory Species (Hague, 1995); ratified in 2000;
Convention on Migratory Species of Wild Animals (Bonn, 1979); ratified in 2000;
Convention on Wetlands of International Importance Especially Waterfowl Habitat (Ramsar, 1971); ratified in 1999;
Convention on Transboundary Effects of Industrial Accidents (Helsinki, 1992); ratified in 1993;
Convention on the Protection of Transboundary Watercourses and International Lakes (Helsinki, 1992); ratified in 1993;
Stockholm Convention on Persistent Organic Pollutants (Stockholm, 2001); ratified in 2004;
Convention on Cooperation for the Protection and Sustainable Development of the Danube River (Sofia, 1994); ratified in 1999;
Convention on Biological Diversity (Rio de Janeiro, 1992); ratified in 1993;
United Nations Framework Convention on Climate Change (Rio de Janeiro, 1992), ratified in 1995;
Convention on International Trade in Endangered Species of Wild Fauna and Flora (Washington, 1973);
European Landscape Convention (Florence, 2000), ratified in 2001;
Convention on Plant Protection Service (Rotterdam, 1998); ratified in 2004;
Cartagena Protocol on the Biosafety to the Convention on Biological Diversity; ratified in 2003;
Convention on Long-Range Transboundary Air Pollution (Geneva, 1979); ratified in 1995;

2.4 Environmental Assessment by-laws

Regulation on Environmental Impact Assessment (1996). The Regulation is included as an Annex to the Law on Ecological Expertise and Environmental Impact Assessment. It establishes the goal of preparing of documentation on Environmental Impact Assessment (EIA), its procedure, coordination and approval, and includes the List of objects and types of activities for which EIA prior to their design is compulsory. EIA is carried out to determine the requisite measures to prevent adverse ecological impacts due to realization of certain planned objects and types of activities. The Regulation describes the requirements for documentation on EIA (materials in which the direct and indirect impacts of planned objects on air, water, soil, landscape, protected areas, fauna, flora, natural resources, cultural and historic monuments, socio-economic situation are establishing, describing and evaluating; comparison of alternative solutions and substantiation of the best one; suggested mitigation activities (on the basis of developed documentation on EIA, the client designs a Statement on Environmental Impact Assessment in which all materials, calculations and researches are presented and systematized), EIA content (title of the project; character of activity; location; substantiation for location; project duration; technical and technological characteristics of the project; suggested technical
solutions; project cost; localities affected by projects; information of direct impacts on environment (water, soil, etc.); land to be occupied by project; water abstraction; water use, water source; sources of raw materials, transport and other infrastructure, emissions to air, wastes and their utilization, etc.; order of elaboration and submission documentation on EIA, state ecological expertise of EIA documentation, decision on a state ecological expertise of EIA documentation, etc.

Instruction on Order of Organization and Conduction of the State Ecological Expertise (2002). The State Ecological Expertise (SEE) is applied for any new construction, its modernization and up-grading. All design documents should be presented to the State Ecological Expertise units (MENR for major projects, headquarters of the State Ecological Inspection and rayonal Ecological Inspectorates). Technical solutions, reflected in the submitted for SEE technical documentation have to be sufficiently substantiated in relation to reduction/mitigation of impact on environment. The instruction is accompanied by a series of annexes, which: (i) describe in details requirements for project documentation submitted to SEE; (ii) nominate subdivisions of MENR responsible for SEE different types and scales of projects; (iii) establish requirements for every chapter or volume of project documentation, etc.


Statute on Environmental Impact Assessment for Privatized Enterprises (1998) establishes the procedure for EIA by means of ecological express-audit at ecologically dangerous enterprises in case of privatization or change of owner to determine and indemnity the damage to environment.

General Regulations on Elaboration and Mode of Submission of Declaration on Industrial Security (2000). The Regulation establishes rules on elaboration of and requirements to be adhered while presenting of it to the Department of Standardization and Metrology, which in conformity with the law on hazardous industrial objects security exercises the normative regulation in industrial security.

2.5 Environmental Impact Assessment Procedure

In Moldova, the Environmental Impact Assessment procedure was established by the Law on Ecological Expertise and Environmental Impact Assessment in 1996. The EIA procedures are applicable to complex and potentially dangerous (to the environment) projects which could lead to significant impacts and aim to prevent and mitigate impacts even on the projects’ design stage. The EIA should be conducted at an early stage of the project in case new construction, upgrading, reconstruction, modernization, production profile changes, conservation or liquidation of existing enterprises or new development planning is expected to be implemented.

2.5.1 Projects Environmental Screening. Following national environmental approval procedures, all projects may be conventionally divided into three main categories:
**First category** - projects which may have significant impacts on the environment (see the list of such projects below). They require a full Environmental Impact Assessment (EIA) before designing and can be further developed (detailed engineering design) with a positive approval of the EIA findings by the State Ecological Expertise (SEE). This projects of this category mainly corresponds to WB Category A projects as well as partly, to Category B projects, e.g., electrical transmission, nature protection projects, some watershed projects (e.g., protection strips along river and water bodies), some rural water supply projects (for grouped water intakes with 1 thousand m³/day and more for underground water intake and 10 thousand m³ per day for surface water intake), etc.

**Second category** - projects not listed in the list of first category projects, which may have less significant impact on environment. They require ecological substantiation of project activities. Such substantiation is described in a special Environmental Chapter of the project documentation, which has to contain information on potentially affected environment as well as outline main potential environmental impacts and mitigation measures. This Chapter has to be included in the project design documentation and respectively, to be passed through the State Ecological Expertise before project implementation – this Category mainly corresponds to WB Category B projects.

**Third category** - the rest of projects which are expected to have minor impacts on environment and therefore do not need to be passed through the formal procedures of EIA and SEE. This Category fully corresponds to WB Category C projects.

According to the Law on Ecological Expertise and Environmental Impact Assessment (1996), project documentation for the projects that may adversely affect environment is a subject of a state ecological expertise. The main goal of the SEE is to determine whether the project documentation complies with environmental protection requirements and to check whether all environmental standards/ principles are adhered, and the environmental protection measures are addressed. Ecological Expertise should be conducted prior making decision on planned economic activity and is compulsory for project and planning documentation with regard to planned economic objects and activities that affect or may affect environmental conditions and/or envisage use of natural resources, regardless destination, placement, type of ownership and subordination of these objects, the amount of capital investments, source of funding and method of execution of construction works.

The decision of the ecological expertise is the basis for further approval or refusal of the project documentation. In the case of projects which may severely affect the environment (specified in the relevant list attached to the Law on SEE and EIA), their documentation is a subject of EIA to be conducted prior to Ecological Expertise. The purpose of the EIA is to identify impacts effects that these projects may have on the environment and to provide solutions to mitigate any significant effects that could occur as a result of the project implementation.

**2.5.2 Projects that require full EIA.** Per the Law on SEE and EIA (1996), a full EIA followed by the compulsory State Ecological Expertise must be conducted for all activities and objects which: may change natural water regimes and provoke soil salinization, relate to crop cultivation with increased risk of pesticide use, are to be situated in zones with water protection regime,
produce releases of harmful substances and materials, e.g. use of pesticides, cement production including those that use asbestos in technological processes, and many other activities that may have a negative effect on the quality of environment, etc. The List of activities requiring a full EIA includes the following types of projects:

1. Thermoelectric stations, thermal industrial and heating stations with the capacity of 300 MW and more;
2. Mechanical enterprises and car construction enterprises with high capacity foundries – 10 thousand tons of cast iron, iron per year and more; 1 thousand tons of non-ferrous metals per year and more;
3. Metallurgical enterprises with a production capacity of 500 thousand tons and more of rolled metal per year;
4. Enterprises for the production of cement and slate, including those using asbestos in the technological processes, stationary asphalt-concrete plants;
5. Chemical and oil-chemical enterprises, secondary processing of paper and cellulose;
6. Pharmaceutical and ether-oil production enterprises;
7. Construction of highways, roads arranged for high speed, long-distance railways, airports with the length of landing strip of 2,100 m and more;
8. Complicated hydro-technical constructions (ports, large dams and water reservoirs);
9. Main high pressure oil and gas pipelines;
10. Petroleum storage depots;
11. Sugar refinery and butter-fat factories;
12. Dairies and meat processing enterprises;
13. Canneries with a production capacity of 100 million conventional cans per year and more, and large big storage/pre-processing units;
14. Animal agro-industrial complexes for cattle, pigs, sheep and poultry;
15. Grouped water intakes for enterprises, urban and rural localities with the debit: 1 thousand m$^3$/day and more for underground water intake, 10 thousand m$^3$/day for surface water intake;
16. Industrial and municipal waste water treatment plants with the capacity of 10 thousand m$^2$ per day and above;
17. Industrial orchards and vineyards with an area of 500 ha and more;
18. Irrigation and drainage systems with areas of 1000 ha and 100 h and more, respectively;
19. Greenhouse complexes with areas of 24 ha and more;
20. Waste treatment and waste incineration plants;
21. Installations and polygons for the treatment, incineration and neutralization of industrial wastes, including of toxic, drugs and radioactive ones;
22. Any type of construction activity in riverbeds, in protection strips along rivers and water bodies;
23. Open mining of: a) limestone, with an extraction capacity of 100 thousand m$^3$/year and more; and (b) sand, gravel, clay, gypsum, with an extraction capacity of 100 thousand m$^3$/year and more;
24. Exploration and development of gas- and oilfields;
25. Underground extraction of limestone;
26. Military polygons and bases;
27. Wineries and beverages, enterprises for the production of sparkling wines, cognacs, liquors, vodka and of other alcoholic products, with a production capacity of 100 thousand deciliters and more per year;
28. Lines of electric-power transmission with the voltage of 330 kV and more;
29. Radio-electronic and electro-technical enterprises with a production area of 2 thousand m$^2$ and more.
30. Tanneries, including enterprises for the primary processing of raw skins;
31. Sawmilling and furniture manufacturing enterprises with a production area of 4 thousand m$^2$ and more;
32. Enterprises of the textile, clothing and shoemaking manufacturing with dyeing processing, and production of synthetic raw materials and polymers.

The Ministry of Ecology and Natural Resources (MENR) may also require a full EIA for other types and scales of projects on the case-by-case screening, but criteria and procedures for that are not specifically stipulated by the Law. In conformity with the Law, the EIA should be conducted at an early stage of the project, before designing stage in conformity with approved methodology, structure of the report and other documentation requirements. The EIA can be conducted by intuitions which hold a special license issued by the MENR, based on their qualification.

Based on the full EIA study should be prepared a Statement on the EIA which is subject to the MENR review and approval. The SEIA is also a subject of public consultation. The procedure for the SEIA disclosure and consultation established by the Law on SEE and EIA is the following: the beneficiary submits the SEIA to the competent ministries and departments, in conformity with a profile of the object or activities, and to concerned local public authorities. Within next 5 days, local public authorities have to disseminate through mass media the information about the place and time one can get acquainted with the SEIE, obtain a copy of SEIA, public ecological expertise and public debates. The public access to the SEIA shall be open within 30 days. During this term, the objections on the respective documents may be submitted in written to the person specially appointed by the local public authorities. Within next 14 days after a 30-day public access to the SEIA, concerned local public authorities shall submit the objections formulated within the public debates on the SEIA as well as their own objections to the beneficiary, and to copy these to the central environment authorities The ministries and departments shall submit to the beneficiary, within 50 days from the receipt of the SEIA, their own objections, and also to copy these to the central environment authority. Should the beneficiary and the central environment authority not receive objections on the SEIA within 50 days it shall be considered that such do not exist.

Corrected SEIA and other EIA documentations (additions, inputs from public consultation, results of specific research, when needed, tables, maps, models, etc.) should be presented to MENR for review by the State Ecological Expertise (SEE).

The main objectives of ecological expertise of planned objects’ documentation are maintenance of ecological balance, conservation of genetic fund and biological diversity, creation of favorable conditions for living, etc. The basic principles of ecological expertise are comprehensive examination of technical, ecological, social and economic parameters presented in documentation on planned economic activity with considering of regional characteristics, ecosystem conditions and their resistance to the planned impact, perspective of socio-economic development of the region, etc.
The following new projects, programs, plans and schemes are subject of the State Ecological Expertise (cite on the Instruction on Order of Organization and Conduction of the State Ecological Expertise, 2002):

a) draft legislative acts and other draft legal acts, instructions, norms and methodologies, regulations and standards referring to the state of the environment and/or regulating potentially dangerous for the environment activities, the use of natural resources and environment protection;
b) draft international conventions, draft concession contracts presuming the use of natural resources;
c) new projects, programs, plans and charts regarding:
   - the economic and social development of the Republic of Moldova, of certain regions, districts, municipalities, villages;
   - nature protection in the country as a whole and by separate territories;
   - reconstruction of municipalities, cities, villages;
   - supply of heat, water, gases, electric power;
   - construction of sewerage systems of localities;
   - town planning and land arrangement in urban and rural localities;
   - construction, extension, reconstruction, re-equiment, modernization and readjustment, conservation, demolition or liquidation of all economic and social objects liable to affect the environment as well as of those that can affect the environmental state in neighboring countries, determined by the Espoo Convention;
   - construction of roads, railways, river communication, reconstruction of riverbeds, hydro- technical constructions, irrigation and draining systems, construction of systems to prevent soil erosion and salinization;
   - mineral resources extraction and exploitation, including in areas with water protection regime;
   - production and destruction of pesticides and of other toxic substances;
   - siting and arrangement of platforms for industrial, domestic, agricultural wastes and toxic residues, construction or placement of installations for processing, neutralizing or destroying such wastes and residues;
   - other activities that can affect the environmental conditions.

All EIA conclusions, including list of mitigation measures and environmental management plan should be outlined in the chapter on “Environment Protection” of the Design Document. The SEE can be conducted either by the central office of the MENR (Division for Pollution Reduction Prevention), or by the State Ecological Inspectorate headquarter, or Territorial Ecological Agency in dependence on scale of the project and significance of potential environmental impacts. This procedure mainly corresponds to a full Environmental Impact Assessment required by the World Bank for Category A projects.

According to the national procedure, for the enterprises which exists already and are operating but which plan to be reconstructed, modernized, enlarged, etc. an EIA should be conducted only for those parts which are going to be under reconstruction, modernization, enlargement, etc.
The list of objects, buildings and installations which has to be presented to the relevant subdivisions of the Ministry of Ecology and Natural Resources for conducting of the State Ecological Expertise is presented the Table 1 below.

Table 1. List of objects, buildings, installations documentation which has to be presented to the relevant sub-divisions of the Ministry of Ecology and Natural Resources

<table>
<thead>
<tr>
<th>№</th>
<th>Title of branch and object</th>
<th>Ministerial sub-divisions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Division for Pollutio Reduction of the Ministry of Ecology and Natural Resources</td>
</tr>
<tr>
<td>A</td>
<td><strong>OBJECTS OF THE SOCIO-CULTURAL AND COMMUNAL DISTINATION</strong></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td><strong>OBJECTS OF THE INDUSTRIAL, COMMUNAL, TRANSPORTATION, ENERGY, COMMUNICATION, WAREHOUSE AND OTHER</strong></td>
<td></td>
</tr>
<tr>
<td>I</td>
<td><strong>Industrial destination:</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Enterprises of metallurgical, chemical, engineering, electro-technical industries</td>
<td>+</td>
</tr>
<tr>
<td>2</td>
<td>Enterprises of forestry, woodworking, light, food, meet and dairy and construction materials industries</td>
<td>+</td>
</tr>
<tr>
<td>3</td>
<td>Agricultural objects</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a</td>
<td>Cattle and pig farms, poultries</td>
<td>+</td>
</tr>
<tr>
<td>b</td>
<td>Cattle and pig farms</td>
<td>+</td>
</tr>
<tr>
<td>c</td>
<td>processing:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- in towns, cities and district centers</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>- in rural localities</td>
<td></td>
</tr>
<tr>
<td>d</td>
<td>Oil and flour mills in rural areas</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td><strong>Irrigation and other water management objects</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a</td>
<td>Projects, construction working projects, construction, reconstruction, enlargement of irrigation systems, hydro-technical installations, etc.</td>
<td>+</td>
</tr>
<tr>
<td>b</td>
<td>Projects:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>fish protection installation, sedimantation and flood prevention ponds as well as projects to prevent dangerous geological processes</td>
<td>+</td>
</tr>
<tr>
<td>5</td>
<td>Open pits and mines for extraction of mineral resources</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td><strong>Exploration and exploitation of gas- and oilfields</strong></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td><strong>Documentation on other objects not listed in items A &amp; B</strong></td>
<td></td>
</tr>
<tr>
<td>II</td>
<td><strong>Objects of communal destination</strong></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Water intakes and waste water treatment plants, sewage</td>
<td>+</td>
</tr>
<tr>
<td>---</td>
<td>-----------------------------------------------------</td>
<td>---</td>
</tr>
</tbody>
</table>
| 2 | Water supply systems; industrial, municipal and storm sewage, heating, sanitary treatment, transport:  
- on the national level  
- towns, cities, district centers, rural localities | + |
| 3 | Municipal solid waste incineration plants, polygons on treatment and disposal of industrial, municipal and toxic wastes:  
- for municipalities Chisinau, Balti, Tiraspol, Bender  
- for other localities. | + |
| II | Warehouses of any destination, objects of communication, transportation service, ports, tunnels | + |
| I V | Energy objects | + |
| C | Linear objects and facilities | + |
| I | Transport, energy, communication | + |
| 1 | River bridges, crossroads in urban localities, international roads | + |
| 2 | Roads of national and inter-district significance, etc. | + |
| 3 | Roads in rural localities and between them | + |
| 4 | Oil filling stations (regardless their location) | + |
| 5 | Sites for open parking and garages for cars:  
- with technical service  
- without technical services | + |
| 6 | High-voltage power lines:  
 a 110 kV and more | + |
| b 35 kV and less | + |
| 7 | Heating networks:  
 a From municipal and district heating houses | + |
| b From local heating houses | + |
| 8 | Communication lines on pylons and underground:  
 a Main (magisterial) | + |
| b Between localities and inside them | + |
| 9 | Gas pipelines:  
 a Main of high and medium pressure, international and inter-district, gas distribution stations | + |
| b Gas pipelines from gas distribution points to customers in rural and urban areas | + |
| 1 0 | Water supply and waste water collection systems in bounds of localities (without installations) | + |
| 1 | Oil pipelines | + |
1. DOCUMENTATION ON TOWN BUILDING AND URBAN DEVELOPMENT

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>DOCUMENTATION ON TOWN BUILDING AND URBAN DEVELOPMENT</td>
<td></td>
</tr>
<tr>
<td>V</td>
<td>Schemes of a complex use and protection of water resources and river basins</td>
<td>+</td>
</tr>
<tr>
<td>V</td>
<td>Drafts of the environmental laws and other regulatory documents, including standards as well as those regarding environmental conditions and/or regulating potentially hazardous for environment activities, use of natural resources and environmental protection</td>
<td>+</td>
</tr>
<tr>
<td>V</td>
<td>Drafts of international Conventions and concession agreements presuming use of natural resources</td>
<td>+</td>
</tr>
<tr>
<td>V</td>
<td>Projects of the national and special importance as well as ones developing by foreign economic agents</td>
<td>+</td>
</tr>
<tr>
<td>X</td>
<td>Documentation on Environmental Impact Assessment</td>
<td>+</td>
</tr>
<tr>
<td>X</td>
<td>Other documents and materials not listed in items A, B, C &amp; D</td>
<td>+</td>
</tr>
</tbody>
</table>

**Remarks:**

1. Volume, content and composition of the project documentation on construction, reconstruction, technical modernisation, re-profiling of enterprise should correspond to requirements of normative, methodical, instruction and directive documents and environmental legislation in force.

2. Ecological Expertise of the projects, materials and documents related to development and adoption of new technologies, equipment and materials, including foreign ones, is being implemented by the Institute of Ecology at the initial stage of the elaboration of project documentation.

According to the Law, not later than in 10 days after making a decision (positive or negative) on Environment Impact Assessment documentation, the central environmental authority through the mass media, in an obligatory order inform the public about results of the ecological expertise on Environmental Impact Assessment.

Public consultations for the projects which require a full EIA (listed above) are compulsory at the initial stage of the project before conducting EIA (at the scoping stage) and on a later stage, when the Statement on Environmental Impact Assessment is disclosed for public prior to reviewing of the final (corrected) documentation by the SEE and thus, the existing national public consultation procedure for category first category fully complies with the Bank’s one (for Category A projects). In relation to projects which are not listed in the Law, public consultation is not compulsory, the issue which doesn’t comply with the WB requirements concerning second category projects (WB Category B projects).

Based on the results of the State Ecological Expertise of the Environmental Impact Assessment documentation and consideration of results of public consultations, the opinion letter is being
complied. A positive opinion letter/decision of SEE on the Environmental Impact Assessment documentation serves as official basis to proceed with further project’s design.

Obviously, the EIA procedure is a complex one and consists of subsequent steps of documentation submission and approval. The national EIA procedure is illustrated in the figure below.¹

The developer (initiator of the planned activity) is responsible for organization of EIA study, conducting of consultations, presentation of EIA documentation and SEIA to the SEE, including its financing.

2.5.3 Projects that require SEE of design documentation.

¹ Figure design: by R. Melian, Acvaproject Design Institute, Moldova
All projects, which may have negative impact to environment, but not listed in Regulation on Environmental Impact Assessment (refer to sub-chapter 2.5.2) (second category) will require SEE before construction. The SEE procedures are usually applied after feasibility and engineering design stages. The design documentation for these projects usually linked with construction, reconstruction and enlargement is being developed in conformity with a technical documentation.

Sections “Environment Protection” and “Environment Protection during Construction” in the project documentation should be developed only by specialists in the fields. Technical solutions, reflected in the submitted for SEE technical documentation have to be sufficiently substantiated in relation to mitigation of impact on environment.

2.5.4 Projects that not require EIA and SEE of the design documentation.

Projects that do not need an EIA study and/or SEE of design documentation normally relate to activities when no (re)construction takes place, e.g., purchase of machinery for crop cultivation, small-scale horticulture and viticulture, beekeeping, agro-mechanization services, woodworking, infrastructure maintenance projects, etc. In these cases for project approvals the following steps are to be followed:

**Step 1.** Sub-project applicant presents a project description (location and intention) to relevant local (rayonal or municipal) authority where it is going to be located to get its approval to proceed.

*Note:* It relates to cases when there should be a new business activity to be registered or authorized, or new building, or/and new technological device or process, or extension of buildings/devices, or new placing of activity, or water use in technology.

**Step 2.** Applicant submits the sub-project business plan to the district authority (often, in order to review the business plan, a commission is being established, and one member of the commission should be a representative of ecological authority) to receive its approval. The commission determines whether an EA is required. If the commission disagrees on approval of the plan, the applicant may have to provide additional information and/or the commission may request input from other interested parties.

*Notes:*

a) If it is confirmed that no EA is required (as per list provided in the Instruction on the Order of Organization and Conduction of the State Ecological Expertise) the applicant can proceed with the implementation of sub-project in case he/she received all other needed approval and permits.

b) If the commission requires some EA, then the applicant shall hire an authorized body to conduct the EA on his/her behalf.

**Step 3.** Once the EA is conducted, the applicant submits it the central or local (as per Instruction’s guidance) environmental authorities for EA approval. The EA is submitted to the Division of Ecological Expertise and Environmental Authorizations for its review and comments. Comments may be followed by the i) approval, ii) approval under certain condition/conditions to be met, or iii) outright rejection of EA, and hence, the project.
Step 4. Upon approval from environmental authority and obtaining permits issued by all concern institutions (the officers of entities which applicant visit to get an approval determine what kind of special permits on maximum admissible discharges of wastewater, maximum admissible emissions to air - both are calculated for each particular case; water use; construction certificate as well as license on other than water natural resources use should be obtained from specialized institutions), the sub-project implementation is allowed to commence.

Note: The institutions issued relevant permits might be: State Ecological Inspectorate (wastewater discharge volumes, pollutants in effluent and emissions to air), State Geological Agency (SGA) (use of underground water resources), water management Agency “Apele Moldovei (use of surface water resources), local public authorities/ mayoralities (construction certificates), etc.

2.6 Concluding Remarks

Comprehensive list of objects and activities as well as procedures for environmental impact assessment and ecological expertise are provided in the Law on Ecological Expertise and Environmental Impact Assessment (1996) and Instruction on the Order of Organization and Implementation of the State Ecological Expertise (2002), and when the SEE is required, these documents should be consulted in details.

The planned and design documentation should be presented for approval either to the Division for Environmental Pollution Prevention of the Ministry of Ecology and Natural Recourses, or Department of Ecological Expertise and Environmental Authorizations of the State Ecological Inspectorate (headquarter), or to respective Territorial Ecological Agency, depending on the type and scale of the projects.

3. Country’s Environmental Management Institutional System

3.1 Central Public Authorities

**Ministry of the Ecology and Natural Resources.** This is the central authority, responsible for the development and promotion of the state policy in the field of environment and natural resources. It performs: state control over the natural resources use; coordination and control over the implementation of environmental laws and policies; initiating and drafting laws and regulations and issuing relevant instructions/ decisions; issuing permits on natural resources uses and licenses for polluting emissions; elaboration, approval and introduction of environmental standards and normative documents in the field of its competence; environmental monitoring; imposing economic sanctions in case of violations environmental legislation; supervises territorial development and its infrastructure, town-planning, architecture, industry of construction materials and introduction of new techniques and technologies in the sphere of its competence; drinking water supply and waste water treatment in urban areas, etc. The following institutions sub-ordinate to the Ministry: State Ecological Inspectorate; State Hydro-Meteorological Service, and the State Geological Agency (SGA).

**State Ecological Inspectorate (SEI).** The SEI is an environmental protection regulatory and enforcement agency which performs the state control over the rational use and protection/conservation of the natural resources. Its role is to control implementation of environmental legislation. The SEI through its country wide network of Territorial Agencies and Rayonal Inspections monitors industrial
facilities which generate impacts on environment. The SEI issues permits on use of natural resources and environmental pollution in admissible limits; supervises the level of respecting ecological norms and requirements, instructions, recommendations, norms on use of natural resources, dangerous products and substances, and wastes; evaluates environmental impact assessment applications for new developments; provides ecological expertise; regulates and establishes emission limit values (ELVs) and maximum allowable concentrations (MACs) and regulates the emission of dangerous substances into the environment as well as the storage limits of industrial, domestic, hazardous and other wastes; performs environmental pollution monitoring; carries out enforcement of the permits by inspection visits, monitors, and levies fines in cases of non-compliance, initiates legal processing, ceases the activity in case of non-compliance with environmental protection requirements, etc.

State Hydro-Meteorological Service. Through the Monitoring Centre on Environmental Quality, the SHMS performs regular monitoring of the air, water and soil quality as well as atmospheric radiation background level. Among other responsibilities are monitoring of meteorological conditions, Prut and Dniester Rivers’ water flow, hydrological forecast, weather forecast, agrometeorological monitoring and forecast, etc.

State Geological Agency (SGA). The SGA is responsible for promoting of state policy in the field of management and monitoring of underground resources in Moldova and provides an overall umbrella for state organizations and enterprises specialized in field of underground water use; administrations at district and regional level, as well as organizations specialized in the design and investigation of underground water objects. It performs management of underground water resource and their protection; counting of groundwater resources and monitoring of groundwater quality and regime.

State Agency “Apele Moldovei”. Agency “Apele Moldovei” is subordinated directly to the Government of Moldova. It is the central technical and administrative organization dealing with surface water resources, and is responsible for management of water resources used for irrigation, domestic and industrial water supply purposes as follows: development of long-term programs concerning river basins and water administration works throughout the country, including centralized water supply facilities, irrigation and drainage, protection against floods or other damage, coordinating of construction, design, and operation activities in the field of water.

Acvaproject Design Institute subordinated to “Apelei Moldovei” has specific responsibilities for the design of water resource projects and for land improvement works (irrigation, drainage, soil erosion control works, dykes, etc.).

Ministry of Healthcare. The Ministry of Healthcare is the central authority responsible for population health protection, and sanitary and epidemiological supervision in Moldova. Ministerial sub-division National Scientific and Practical Centre for Preventive Medicine performs regular sampling and analyzing water quality in water bodies and groundwater used for drinking water supply (tap water, artesian and shallow wells), and those used for recreation purposes.

National Institute for Standards and Metrology. The National Institute for Standards and Metrology is a sub-division of the
Service of Standardization and Metrology which as a public administration authority subordinates directly to the Government. The Institute was designated as a National Metrology Body with responsibilities to develop metrological policy, assure the instrumental measurement results, development and adherence of national and reference standards, etc.

Forestry Agency “Moldsilva”. State Forestry Agency Moldsilva is a state institution subordinated directly to the Government. It is responsible for development and promotion of the state policy in the field of forest resources management through establishment forest resources management, forest research and monitoring, conservation and protection of forest fund; forestation of eroded and agricultural lands, etc.

3.2 Local public authorities

Among responsibilities of local public authorities on local (settlement) level are: approval and supervision of local programs in the field of environmental protection; protection and conservation of historical and natural monuments; natural parks and protected areas, and approval of admissible limit values of emissions and discharges (admissible level of environmental pollution) and limits of natural resources (water) use.

3.3 Non-Governmental Organizations (NGOs)

According to the law on Public Associations (1996) and law on Access to Information (2000), the general goals of NGOs aim to raise public awareness, develop project proposals and execute projects' implementation; collaborate and cooperation with public authorities in the field of environmental protection, initiate and participate in public actions towards environmental improvement, cooperate with international and regional organizations, and participate in decision making process. In relation to the Project, the NGO’s are expected to participate actively in public consultation on conducted environmental assessment. Besides, in conformity with the Law on Ecological Expertise and Environmental Impact Assessment, officially registered public organizations may conduct a public ecological expertise which serves as a tool to raising public awareness and getting people involved in environmental decision making process. The results of public ecological expertise are being considered as recommendations until their approval by of the Central Environmental Authority.

3.4 Concluding Remarks

In spite of quite big number of institutions which to some or another degree are involved in the environmental management, the principal responsibilities for the implementation of environmental protection requirements are shared between:

- the Department of the Policies Analysis, Monitoring and Evaluation of the Ministry of Ecology and Natural Resources dealing with policy formulation and planning;
- the Department of Natural Resources and Biodiversity, and Department of Environmental Pollution Prevention of the Ministry of Ecology and Natural Resources responsible for the preparation of relevant legislation;
• the State Ecological Inspectorate, which is responsible for permitting;
• the Territorial Ecological Agencies (TEAs) responsible for inspection and control of the environmental performance of installations, which can appeal to the national inspectorate competencies;
• along with above, Rayonal Ecological Inspections responsible for emissions monitoring (if required by authorities), and the State Hydro-Meteorological Service responsible for regular ambient monitoring; and,
• the Environmental Information Centre and the Institute of Ecology and Geography for reporting, which all together have enough capacities to perform environmental management of sub-projects.

4. World Bank Environmental Assessment Policy, Rules and Procedure

4.1 World Bank’s Safeguard Policies and their relevance to project

There are key 10 Environmental and Social World Bank Safeguard Policies which are intended to ensure that potentially adverse environmental and social consequences of projects financed by Bank are identified, minimized and mitigated. World Bank Safeguard Policies have a three-part format: Operational Policies (OP) - statement of policy objectives and operational principles including the roles and obligations of the Borrower and the Bank, Bank Procedures (BP) - mandatory procedures to be followed by the Borrower and the Bank, and Good Practice (GP) - non-mandatory advisory material. World Bank’s Safeguard Policies and their relevance to sub-projects to be funded under the Competitiveness Enhancement Project’s New Credit Line Component are indicated in the Table 2 below.

<table>
<thead>
<tr>
<th>Safeguard Policies</th>
<th>Relevance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Assessment (OP/BP 4.01)</td>
<td>Yes (refer to the description below)</td>
</tr>
<tr>
<td>Natural Habitats (OP/BP 4.04)</td>
<td>To be determined (generally it is expected there will be no important wildlife and wildlife habitats in the vicinity of the CEP New Line of Credit Component projects; if such cases occur, a full EIA will be required).</td>
</tr>
<tr>
<td>Topic</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Forestry (OP/BP 4.36)</td>
<td>This Policy is to ensure that forests are managed in a sustainable manner; significant areas of forest are not encroached upon; the rights of communities to use their traditional forest areas in a sustainable manner are not compromised.</td>
</tr>
<tr>
<td>Pest Management (OP 4.09)</td>
<td>This policy is to ensure pest management activities follow an Integrated Pest Management (IPM) approach, to minimize environmental and health hazards due to pesticide use, and to contribute to developing national capacity to implement IPM, and to regulate and monitor the distribution and use of pesticides.</td>
</tr>
<tr>
<td>Physical Cultural Resources (OP/BP 4.11)</td>
<td>This policy is to ensure that: Physical Cultural Resources (PCR) are identified and protected in World Bank financed projects; national laws governing the protection of physical cultural property are complied with; PCR includes archaeological and historical sites, historic urban areas, sacred sites, graveyards, burial sites, unique natural values; implemented as an element of the Environmental Assessment.</td>
</tr>
<tr>
<td>Indigenous Peoples (OP/BP 4.10)</td>
<td>IP – distinct, vulnerable, social and cultural group attached to geographically distinct habitats or historical territories, with separate culture than the project area, and usually different language. The Policy aims to foster full respect for human rights, economies, and cultures of IP, and to avoid adverse effects on IP during the project development.</td>
</tr>
<tr>
<td>Involuntary Resettlement (OP/BP 4.12)</td>
<td>This policy aims to minimize displacement; treat resettlement as a development program; provide affected people with opportunities for participation; assist displaced persons in their efforts to improve their incomes and standards of life.</td>
</tr>
<tr>
<td>Policy</td>
<td>Description</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>living, or at least to restore them; assist displaced people regardless of legality of tenure; pay compensation for affected assets at replacement cost; the OP Annexes include descriptions of Resettlement Plans and Resettlement Policy Frameworks</td>
<td></td>
</tr>
<tr>
<td>Safety of Dams (OP/BP 4.37)</td>
<td>This Policy is to ensure due consideration is given to the safety of dams in projects involving construction of new dams, or that may be affected by the safety or performance of an existing dam or dams under construction; important considerations are dam height &amp; reservoir capacity</td>
</tr>
<tr>
<td>Projects on International Waterways (OP/BP 7.50)</td>
<td>The Policy aims to ensure that projects will neither affect the efficient utilization and protection of international waterways, nor adversely affect relations between the Bank and its Borrowers and between riparian states</td>
</tr>
<tr>
<td>Disputed Areas (OP/BP 7.60)</td>
<td>The Bank may support a project in a disputed area if governments concerned agree that, pending the settlement of the dispute, the project proposed for one country should go forward without prejudice to the claims of the other country</td>
</tr>
<tr>
<td>Disclosure Policy (BP 17.50)</td>
<td>Disclosure Policy (BP 17.50) supports decision making by the borrower and Bank by allowing the public access to information on environmental and social aspects of projects and has specific requirements for disclosure</td>
</tr>
</tbody>
</table>

Reference Documents on World Bank’s Operational Policies (OP) are presented in **Annex G.**

### 4.2 World Bank Screening Categories and Environmental Assessment Procedures

Environmental Screening is a Mandatory Procedure for the Environmental Assessment 4.01 OP/BP. The Bank undertakes environmental screening of each proposed project for which it will provide funding in order to determine the appropriate extent and type of the Environmental Assessment to be conducted.
The Bank classifies a proposed project into one of four categories, depending on the type, location, sensitivity and scale of the project and the nature and magnitude of its potential environmental impacts\(^2\). These four Categories are A, B, C, and FI.

**Category A projects** is likely to have significant adverse environmental impacts that are sensitive, diverse, or unprecedented. These impacts may be sensitive, irreversible, and diverse, with attributes such direct pollutant discharges large enough to cause degradation of air, water, or soil; large-scale physical disturbances of the site and/or surroundings; extraction, consumption, or conversion of substantial amounts of forest and other natural resources; measurable modifications of hydrological cycles; hazardous materials in more than incidental quantities; and involuntary displacement of people and other significant social disturbances. The impacts are likely to be comprehensive, broad, sector-wide, or precedent-setting. Impacts generally result from a major component of the project and affect the area as a whole or an entire sector. They may affect an area broader than the sites or facilities subject to physical works. The EA for a Category A project examines the project's potential negative and positive environmental impacts, compares them with those of feasible alternatives (including the "without project" scenario), and recommends any measures needed to prevent, minimize, mitigate, or compensate for adverse impacts and improve environmental performance. For a Category A project, the borrower is responsible for preparing a report, normally a full Environmental Impact Assessment (or a suitably comprehensive regional or sectoral EA).

In the frame of the Project, to the Category A projects will correspond activities listed in the Regulation on Environmental Impact Assessment (1996) as projects which require a full EIA. Category A projects might be in both cases – in the case of newly planned activities/enterprises listed in mentioned Regulation as well as in the case of large scale reconstruction and expiration of these enterprises. In both cases a full EIA and respectively SEE have to be conducted.

**Category B** projects has potential adverse environmental impacts on human populations or environmentally important areas - including wetlands, forests, grasslands, and other natural habitats - which are less adverse than those of Category A projects. These impacts are site-specific; few if any of them are irreversible; and in most cases mitigatory measures can be designed more readily than for Category A projects. The scope of EA for a Category B project may vary from project to project, but it is narrower than that of Category A assessment. Like Category A, a Category B environmental assessment examines the project's potential negative and positive environmental impacts and recommends any measures needed to prevent, minimize, mitigate, or compensate for adverse impacts and improve environmental performance. The findings and results of EA for Category B projects are described in the project documentation (Project Appraisal Document and Project Information Document).

In the frame of the Project, to the category B projects may be attributed all activities not listed in the Regulation on Environmental Impact Assessment (1996) as well as those listed activities which attribute to already working enterprises that already passed through the procedures of Environmental Impact Assessment and State Ecological Expertise, but would require environmental assessment and respectively, ecological expertise only for their newly small scale

---

\(^2\) See: Environmental Assessment Update Sourcebook, Environmental Department April 1993. The World Bank
developing parts (construction, reconstruction, rehabilitation, some expansion of industrial facilities, etc).

**Category C.** An EIA or environmental analysis is normally not required for Category C projects because the project is unlikely to have adverse impacts; normally, they have negligible or minimal direct disturbances on the physical setting. Professional judgment finds the project to have negligible, insignificant, or minimal environmental impacts. Beyond screening, no further EA action is required.

To the Category C projects mainly correspond activities related to the 3rd conventional category of projects which are expected to have minor impacts on environment and therefore do not need to be passed through the formal procedures of EIA and SEE.

**Category FI.** A Category FI project involves investment of Bank funds through a financial intermediary, in subprojects that may result in adverse environmental impacts.

The Bank reviews the findings and recommendations of the EA to determine whether they provide an adequate basis for processing the project for Bank financing. When the borrower has completed or partially completed EA work prior to the Bank’s involvement in a project, the Bank reviews the EA to ensure its consistency with this policy. The Bank may, if appropriate, require additional EA work, including public consultation and disclosure.

Examples of projects that fall under Categories A, B, and C are provided in the Table 3 below. However, this list is just a good starting point and framework for the screening decision. Because of other factors involved such as project sitting, the nature of impacts, and the need for the EA process to be flexible enough to accommodate them, the lists should not be used as the sole basis for screening.

**Table 3. Types of projects under the World Bank’s Categories A, B, and C**

<table>
<thead>
<tr>
<th>Category A Projects (projects/project components which may have diverse and significant impacts – normally require EA)</th>
<th>Category B Projects (projects/project components which may have diverse and significant impacts – more limited environmental assessment is appropriate)</th>
<th>Category C Projects (projects which are unlikely to have direct adverse impacts – no EA is required)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Dams and reservoirs; • Forestry production projects; • Irrigation, drainage and flood control (large scale); • Industrial plants (large scale*) and industrial estates, including major expansion, rehabilitation, or modification;</td>
<td>• Agro-industries (small scale); • Electrical; transmission; • Irrigation and drainage (small scale); • Renewable energy; • Rural electrification; • Tourism; • Rural water supply and sanitation; • Watershed projects</td>
<td>• Family planning; • Nutrition; • Institutional development; • Technical assistance; • Most human resource projects</td>
</tr>
<tr>
<td>Category A Projects</td>
<td>Category B Projects</td>
<td>Category C Projects</td>
</tr>
<tr>
<td>---------------------</td>
<td>---------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>(projects/project components which may have diverse and significant impacts – normally require EA)</td>
<td>(projects/project components which may have diverse and significant impacts – more limited environmental assessment is appropriate)</td>
<td>(projects which are unlikely to have direct adverse impacts – no EA is required)</td>
</tr>
<tr>
<td>• Aquaculture and mariculture (large scale); • Land clearance and leveling; • Mineral development • Port and harbor development; • Reclamation and new land development; • Resettlement and all projects with potentially major impacts on people; • River basin development; • Thermal and hydropower development; • Manufacture, transportation, and use of pesticides or other hazardous and/or toxic materials</td>
<td>(management or rehabilitation); • Rehabilitation, maintenance, and upgrading projects (small-scale); • Protected areas and biodiversity conservation; • Rehabilitation or modification of existing industrial facilities (small scale); • Rehabilitation of highways or rural roads; • Energy efficiency and energy conservation</td>
<td></td>
</tr>
</tbody>
</table>

Note: *Large scale here is defined as enterprises with annual sales of US$ 3 million or more equivalent

Projects with multiple components are classified accordingly to the component that with the most significant adverse impact; if there is a Category A component, the project is classified as A, and respectively, requires a full Environmental Impact Assessment.

The selection of the category should be based on professional judgment and information available at the time of project identification. If the project is modified or new information becomes available, Bank EA policy permits to reclassify a project. For example, a Category B project might become Category A if new information reveals that it may have diverse and significant environmental impacts when they were originally thought to be limited to one aspect of the environment. Conversely, a Category A project might be reclassified as B if a component with significant impacts is dropped or altered. The option to reclassify projects relieves some of the pressure to make the initial decision the correct and final one.

Projects in Category B often differ from A projects of the same type only in scale. In fact, large irrigation and drainage projects are usually Category A, however, small-scale projects of the same type may fall into Category B, the same relates to aquaculture projects and many others. Projects entailing rehabilitation, maintenance or upgrading rather than new construction will usually be in Category B. A project with any of these characteristics may have impacts, but they
are less likely to be “significant”. However, each case must be judged on its own merits. Many rehabilitation, maintenance and upgrading projects as well as privatization projects may require attention to existing environmental problems at the site rather than potential new impacts. Therefore, an environmental audit may be more useful than an impact assessment in fulfilling the EA needs for such projects.

The selection of a screening category often depends also substantially on the project setting, while the “significance” of potential impacts is partly a function of the natural and socio-cultural surroundings. There are a number of locations which should cause to consider an “A” classification:

- in or near sensitive and valuable ecosystems - wetlands, natural areas, habitat of endangered species;
- in or near areas with archaeological and/or historical sites or existing cultural and social institutions;
- in densely populated areas, where resettlement may be required or potential pollution impacts and other disturbances may significantly affect communities;
- in regions subject to heavy development activities or where there are conflicts in natural resource allocation;
- along watercourses, in aquifer recharge areas or in reservoir catchments used for potable water supply; and
- on lands and in waters containing valuable natural resources (such as fish, minerals, medicinal plants; agricultural soils).

The World Bank’s experience has shown that precise identification of the project’s geographical setting at the screening stage greatly enhances the quality of the screening decision and helps focus the EA on the important environmental issues.

4.3 Public Consultation and Disclosure

4.3.1 World Bank Public Consultation Procedure

For all Category A and B projects proposed for WB financing, during the EA process, the borrower consults all involved parties, including project-affected groups and local nongovernmental organizations (NGOs) about the project's environmental aspects and takes their views into account. The borrower initiates such consultations as early as possible. For Category A projects, the borrower consults these groups at least twice: (a) shortly after environmental screening and before the terms of reference for the EA are finalized; and (b) once a draft EA report is prepared. In addition, the borrower consults with such groups throughout project implementation as necessary to address EA-related issues that affect them.

4.3.2 World Bank Disclosure Procedure

For meaningful consultations between the borrower and project-affected groups and local NGOs on all Category A and B projects proposed for IDA financing, the borrower provides relevant material in a timely manner prior to consultation and in a form and language that are understandable and accessible to the groups being consulted.
For a Category A project, the borrower provides for the initial consultation a summary of the proposed project’s objectives, description, and potential impacts; for consultation after the draft EA report is prepared, the borrower provides a summary of the EA’s conclusions. In addition, for a Category A project, the borrower makes the draft EA report available at a public place accessible to project-affected groups and local NGOs.

Any Category B EIA report for a project proposed for WB financing is made available to project-affected groups and local NGOs. Public availability in the borrowing country and official receipt by the Bank of Category A reports for projects proposed for WB financing, and of any Category B EA report for projects proposed for WB funding, are prerequisites to Bank appraisal of these projects.

4.3.3 Differences between World Bank and National Disclosure and Public Consultation requirements

Conducted analysis shows there is no full harmonization between World Bank and national requirements in this regard. The same requirements are in the case of only category A project and first category projects per national legislation. According to national legislation, only projects which are liable to a full Environmental Impact Assessment are subject of mandatory disclosure and public consultation. Similarly, as for WB Category A projects, these projects have to be publically consulted twice - at a very early stage of the project initiation before conducting of EIA and on a later stage, when the Statement on Environmental Impact Assessment is disclosed for public prior to complying of the final (corrected) documentation on Environmental Impact Assessment. The documentation on public consultation is to be included in the full package of documents submitting for project approval.

In case of projects requiring only State Ecological Expertise (second category) public consultation is not required. In relation to such projects the public might organize at its own initiative a public ecological expertise. Public expertise is being conducting on the basis of public association’s written request toward local public authority. While organizing such expertise, within seven days the local public authorities should inform public association about taken decision concerning permission to do so. Public associations conducting ecological expertise are obliged to inform broad local public about beginning of expertise and its results. These associations have the right to obtain planned and project documentation as well as documentation on Environmental Impact Assessment and get acquainted with normative-technical documentation on conducting of the state ecological expertise. The results of public ecological expertise may be considered in the final project design.

4.4. Implementation

During project implementation, the borrower reports on: (a) compliance with measures agreed with the Bank on the basis of the findings and results of the EA, including implementation of any EMP, as set out in the project documents; (b) the status of implementation of mitigatory measures; and (c) the findings of monitoring programs. The Bank conducts supervision of the project's environmental aspects on the implementation of the EA provisions, including measures set out in the legal agreements, EMP, and other project documents.
5. Country’s Baseline Conditions

5.1 Environment

Location and Landscape. Moldova is situated in the southeast of Europe between the Carpathian Mountains and East-European Plain. Its territory lies within Dniester and Prut Rivers. The country’s area is 33,846 thousand km² and it is of 350 km length and of 150 km width. Moldova borders Ukraine on the north, east and south, and in the west it shares a border with Romania. The country relief is broken and hilly. In the centre the Codru Highland is situated, by relief it is similar with lowlands of erosion-slide genesis. In the north of the country there is a Northern Plateau, along the Dniester River - the Transnistrian Highland, in south-western part - the Tigech Highland. To the north form the Codru Highland, the Northern Moldavian (or Balti) Plain is situated, southward - the Southern Moldavian (or Bugeac) Plain. The highest point (429,5 m) is in western part of the Codru and the lowest point (4,5 m) - in extreme south of the country.

Climate. Moldova has a temperate continental climate which is formed mainly by the Atlantic air mass from the west, the Mediterranean air mass from the southwest. It is characterized by short mild winters and long hot summers. Solar radiation which determines soil heating, evaporation and medium air temperature amounts 45-55 kcal/cm² per year and. The annual duration of solar radiation is 2060 hours in the north and 2330 hours in the south, 60-80% of solar radiation occurs in the hot season. Medium air temperature is 7,5-10,0°C; soil surface medium temperature - 10-12°C. The warm period lasts from 146 to 180 days. Annual precipitation varies from 550 mm in the north of the country to 350 mm in the south and falls mainly in the summer months as torrential rains. About 18% of total precipitation falls as a mixture of rain and snow during the winter months. Normally, winds are weak; strong winds are quite rare. It should be emphasized that Moldova already increasingly suffers from conditions brought about by climate change, which is expected to result in “… elevated aridity of Moldova’s territory, especially during periods of crop growth”. There were noted the trend towards higher temperatures and lower humidity (as illustrated by the serious drought that occurred in summer 2008), and the potential for climate change to affect the frequency and severity of several key threats, including droughts and floods.

Geology and Seismology. Moldova is a zone of articulation of tectonic platforms. Most of the country is situated on the southwestern margin of the East-European Pre-Cambrian platform (much older than 560 mln years) crystalline shield often denoted as the European Platform or locally known as the Ukrainian crystalline shield. This very old stable platform represents the roots of mountain ranges formed during numerous orogenic cycles in Archeozoic and Proterozoic times (2300 – 560 mln years) with the remainder on the Scythian palaeozoic- secondary platform and Fore-Dobrujian Mountain Deflection. Archaean and Proterozoic formations are overlapped by Palaeozoic (uncovered thickness about 700 m), Secondary (1250 m) and Neozoic deposits (750 m) uncovered by boreholes. Cretaceous strata are mainly limestones that outcropped at the bottom of the Prut (and Dniester) Rivers valleys in the north of Moldova. In general, the territory is composed of limestones and sandy-loam Pliocene and Miocene deposits of marine and coastal origin, the latest of these being of the Pontic Sea. Upper Pliocene deposits represent high alluvial terraces of the two main rivers. Quaternary deposits (pebbles, gravel, sands and loams) of alluvium and diluvium are spread universally on uneven
surfaces of old formations. The majority of watershed areas are covered by loess (wind deposited) of sandy loams and clay sands up to a depth of 50 m. A special feature of Moldova is landslip accumulations of depths to 30 m that are formed as the result of shifts and mixing of all above listed layers. The geological structure of the territory is distinguished by principal dominance of tertiary sediments (clay, fine-grained sand, loam, and limestone), which are found almost everywhere and get out to the surface on slopes, in gullies and valleys. On the surface of interstream plateaus and slopes where the soil was formed, the alluvium layer of tertiary rocks lays. Terraces of the rivers with heights of 220 m and less are covered by quaternary loess loam. This rock is also soil-forming and very easily gives way to erosion processes. Seismic activity in Moldova is as a result of recent movements in the earth’s crust of the Carpathian Mountains. Southern part of the country is a subject of probable 8-point earthquakes on the Richter scale, northern part and the Dniester left-bank area - 7-point, and the rest of the country - 6-point.

Soils. Generally, Moldova probably has the best in Europe soils for agricultural production and the most productive of these soils - chernozems are mostly found in the northern and central parts of the country, and comprise 75% of all agricultural land. The chernozems include 10 subtypes of black soils, three subtypes of grey wood soils and two subtypes of brown wood soils. The soils are mainly of heavy texture with 63% of the territory covered by heavy loamy soils and 17% by loamy soils. The presence of heavy loams in subsoil has limiting effect on the distribution of natural forests in the forest-steppe zone. Carbonate, normally leached (favorable for many agricultural plants) and typical (most favorable for arable agriculture) black soils (chernozems) dominate, covering 21.1%, 20.7%, 13.0% and 9.4% of the territory, respectively. Alluvial soils are distributed in the valleys and cover 10.2% of the territory. However, more than 55% of these are saline. Grey wood soils are found at elevations above 250-270 m and occupy 9.5% of the country. Soils in the southern part of the country are levigated and carbonate chernozems. During the past 100 years the average soil humus content decreased due to extensive land use for agricultural purposes. Over the last decades the soil losses have accelerated as a result of poor agricultural practices. Over 17% of the agricultural lands are heavily eroded. The country’s topography, weather conditions (mainly, torrential summer rains) and bad agricultural practices promote soil erosion and landslides. Anticipated climate change will aggravate this situation and contribute to desertification. The variety of soil mechanical and composition profiles determines the accumulation potential of the soil related to persistent organic compounds as well as the movement of pollutants into the groundwater with leaching precipitation water.

Soil Erosion. A wide range of data on surface erosion exists in the country. Some estimates allow to estimate average rate of erosion as 16 tons/ha, with 6 ton/ha in the north, and 35 tons/ha in the central parts of the country. Erosion is assumed to have a growth rate of 0.86% per annum, or a 7700 ha/yr decrease of non-eroded land.

Water Resources. Surface waters occupy about 3% of the country’s total area. They are mainly (90%) formed by the transit flow of the Dniester and Prut rivers, both originating in the Carpathians in Romania. The internal rivers network consists of nearly 3,300 water courses with a total length of 16,000 km. Most rivers are small and only nine have a length exceeding 100 km. Density of the river network varies from 0.84 km² in the north to 0.2 km² on the left-bank of the Dniester River and in the southern part of the country. Internal surface water resources account for 1.32 billion m³ per year. The water quality of the Dniester and Prut rivers is generally considered as suitable for irrigation, recreation and drinking purposes. Currently, the main source
of pollution of surface waters is improperly treated sewage. Most wastewater treatment plants are ill-maintained, consequently surface waters are still receiving significant loads of organic pollution and are subject to strong bacteriological contamination. A general improvement of the river water quality in terms of chemical pollution was observed over the last decade due to the significant decline of the industrial and agricultural production. Most of the internal rivers are canalized, with regulating dams and flood protection dykes, and most are moderately or heavily polluted. In Moldova, there are 57 natural lakes with a total surface of 62 km² and about 3500 big and small water reservoirs with total surface of 333 km²; the estimate total storage capacity of the small reservoirs is about 1.5 billion m³. These reservoirs have been created on the rivers, designated to trap sediments, provide irrigation, domestic/industrial water, and support fisheries. The reservoirs are subject to siltation due to soil erosion, eutrophication and pollution from land-based sources. Nevertheless, they are an important local resource for livestock watering, fishing, commercial fish farming, maintaining domestic waterfowl, and recreation. The high value of local water resources for the rural population requires special attention if any actions involving pesticide stores management are to be taken. The water reservoirs are currently often used for commercial fish-farming which is an important economic activity in the rural areas. This makes the water streams and associated reservoirs particularly sensitive to pollution. The floodplains of many of the small internal rivers are highly exposed to flooding, due to climate and landscapes characteristics, poor technical status of weirs and inadequate safety management. Several cases of severe floods on small rivers have been reported over the last decade.

**Groundwater.** Ninety percent of Moldova’s groundwater resources attributes to deep aquifers. Deep groundwater, especially from the Lower Baden Sarmatian aquifer, underlying the entire country, is an important source of domestic and industrial water. Deep groundwater resources are characterized by high levels of salt content that are often close to, or exceeding the drinking standards for fluoride, sulphate and TDS. Shallow groundwater is present throughout the country in recent Quaternary sediments, which are composed mostly of sand, sandstone, and occasionally, gravel. This shallow aquifer is fed from the infiltration of precipitation and is therefore vulnerable for pollution from the earth surface. In the same time, this is a major drinking water source for rural population: about 50% of the country population relies on shallow wells for drinking and domestic purposes. The share of used aquifers does not exceed 50%, which is lower than in other countries. However, over extraction of groundwater has caused significant decrease of the groundwater level in some areas; especially large depression in the Moldova occurred around town Comrat.

**Mineral waters.** The Republic of Moldova is rich in mineral/spa waters: 27 types of mineral water have been attested and 47 sources have been prospected. The total resources account for some 13,800 m³/day; out of these, 10,500 m³/day are potable mineral waters and 3,300 m³/day are suitable for external curative use. Particularly valuable are the iodine-bromine-sulfurous and salty waters in the South of Moldova, which are actually used in spa treatments. In the North reserves of radon-containing groundwater were prospected. The abundance of spa waters, combined with mild climate and other natural characteristics, is providing a good basis for developing a network of curative institutions.

**Air Quality.** Air pollution originates from a large number of local and external sources and has many negative effects on the public health and the environment, e.g. acidification, eutrophication, climate change, etc. Average annual concentrations of pollutants exceeding the national standards were registered in the following towns: particulate matter - in town Balti,
nitrogen dioxide – in Chisinau, formaldehyde – in Balti, Chisinau and Tiraspol. The integrated index of air pollution conserving all above six pollutants is the highest in Balti, then follow Chisinau and Tiraspol. The main contributors to air pollution are industrial activities and transport. The concentrations of sulfates and hydrocarbonates reached a maximum in industrial areas (Ribnita, Camenca, Tiraspol). Chloride practically did not show significant variation, which is an indicator of lack of specific pollution sources in monitored areas. The highest concentrations of calcium and magnesium in town Ribnita is a clear indicator of pollution from the cement and building materials industries located nearby.

*Stationary air pollution sources.* Currently, about 4000 stationary sources of pollution are registered in Moldova, including three power and heat generation units (refer below to chapter Energy), 40 regional, 28 inter-regional, and 1639 local boiler houses, 530 gasoline and gas stations, 24 big fuel storage sites. From these, only 18 units are in the category of big sources with annual emissions of 100-5000 tons while the rest emit lower than 100 tons per year per enterprise and.

*Mobile pollution sources.* Road transport is the main pollution source in this category, accounting approximately some 90% of the total emissions (Transnistria not included). This share is even larger in the big cities. The road transport emissions depend on a number of factors such as the technical condition of cars, state of the roads and/or quality of gasoline. The enforcement of new requirements for gasoline (e.g. unleaded petrol and desulfurized diesel) contributed to the reduction of polluting emissions.

*Land resources and land use.* The Moldova’s land resources have a few distinctive characteristics, namely: (i) the prevalence of rich chernozem soils, with high productive potential; (ii) the intensive land use (ca. 75%); and (iii) a fragmented landscape: 80% of agriculture land is situated on the slopes. However, in 2007, the actual use of land in agriculture was 74% which is the highest percentage in Europe. From the total area of the country of 3384600 ha, 2506200 ha are occupied by agricultural lands (74%), out of which 1821700 ha are arable lands (53,8%), 302800 ha – orchards and vineyards (8,9%), 360000 ha – hayfields and pastures (10,7%), and 21700 ha – fallow lands (0,6%). Statistic data on the land use categories as of January 1 2007 is presented in the Table 4 below.

![Table 4. Land use](image-url)
Currently, 56% of the land is held by private owners. The rest of the land is of a public ownership and is shared between the central government (23%) and the local authorities (22%).

**Mineral resources.** Moldova does not have major mineral deposits but natural resources include deposits of gypsum and other raw materials for building industry, as well as small reserves of oil and gas, lignite and iron ore.

**Oil and gas.** One deposit of oil and four deposits of natural gas were prospected in the South of the country. The reserves are very small: the oil field at Valeni has extractible reserves of about 500,000 tons of low quality oil while the industrial reserves of the gas fields, 300-600 m deep, account for 344 million m³. In 1995, a concession for prospecting and exploiting oil and gas reserves on the territory of the Republic of Moldova was given to a foreign company for 20 years.

**Brown coal.** Four deposits of lignite have been prospected in the South of Moldova, totaling 38 million tons. The coal layers, 0.1-2.6 m thick, lie in Neogene’s sedimentary rocks, between 9 and 500 m beneath the earth surface. The coal quality is poor, with high content of ash and sulphur (4-13%). The coal is not being extracted due to limited reserves, poor mining and geologic conditions and the economic non-viability of the project.

**Iron ore.** One deposit of iron ore was identified with reserves evaluated at 280 million tons. The deposit is formed of a number of layers, 1-2 m to 15-20 m thick, located at 200-370 m beneath the surface. The average content of magnetite in ore is 25-35%. Under the current conditions, the deposit is considered to be unsuitable for industrial extraction.

**Non-iron minerals.** Currently, there are 425 prospected deposits of 17 types of mineral resources in Moldova, mainly construction materials and raw materials for cement, lime and glass production (sand, clay, limestone, gypsum). Latest prospecting works showed the possibility to extend the range of exploitable mineral resources in Moldova by tripoli, diatomite, bentonite clays, helium, and industrial waters. Six deposits of tripoli with reserves totaling some 10 million tons have been prospected. This is a valuable resource that has a wide range of potential uses, e.g. as adsorbents, hydraulic premixes for cement, raw material for liquid glass and crystal production, building and insulation materials, etc. Similar uses are possible for diatomite, which is widespread in the country. The bentonite clays, with prospected reserves of 3.4 million tons, are excellent adsorbents and can have many other applications in construction, agriculture, etc.

**Biodiversity.** The geographical location of Moldova (near the Carpathian Mountains, Black Sea and East-European Plain), provides conditions of high-level biodiversity. However, extensive land use and environmental pollution adversely affect the country’s biodiversity. Natural landscapes and biodiversity in Moldova are limited and due to severe human impact (primarily cultivation) have been rigorously affected. Natural ecosystems covering not more than 20% of
the country are very fragmented and mostly degraded Moldova consists of five landscape zones: i) the forest-steppe plateau and higher elevations located in the northern portions of the country; ii) the Balti region of meadow-steppe elevations and plains; iii) the forest region of Codru and elevations of Central Moldova; iv) the steppe-plain region of the lower section of Dniester terraces occupying the southeastern protuberance of the country and, v) the region of fragmentary plains of the Southern Bugeac steppe. According to the regional classification system, four biogeographic regions are distinguished in Moldova. These are the European Deciduous Forest Region, the Danube Wooded-Steppe, the Podillya-Moldova Wooded Steppe and the Azov-Black Sea Steppe. The wooded steppe in Moldova includes components of the Mediterranean and calcareous Podillyan ecosystems. In conformity with the EU system of classification of bioregions, Moldova is situated in the two biogeographic regions - Continental and Mediterranean

Vegetation. The vegetation resources of the Republic of Moldova can be categorized as forest, steppe, meadow, aquatic and marsh ones. The flora of the Republic of Moldova comprises 5513 indigenous species, including 1832 vascular plants species. The highest specific richness is associated with forest communities (over 850 species), followed by meadow (about 650 species), steppe (over 600 species), and aquatic and marsh ecosystems (about 160 species). Halophytes (on the salinized lands), hydrophytes (in the wetland areas) and xerophytes (on the rocks and dry clay slopes) which comprise the rest of the country’s ecosystem variability. In Moldova there were also found 160 species of mosses, 130 species of lichens and 300 species of blewits.

Forest vegetation. Although official statistics shows that forests cover 13.5% of the country, in reality, the coverage is lower. The most significant forested area is Codru in the centre of the country. Oak forests (consisting of Durmast, English and Pubescent oaks) constitute 53% of all forests. Forests formed by other species (ash, hornbeam and to some degree, beech, and poplar [spps.] in the floodplains, and willow on drifts and silts) make up to 12% of the country’s forest cover. Plantations of locust and other exotic species occupy 38.7% of total forest cover.

Steppe vegetation. Within the European steppe and forest biome, the Moldova landscape displays small areas of steppe and forest biomes with forest-steppe dominating. Little remains of the forest-steppe forest cover. Mesophilic feather-grasses and Fescue are the dominate herbs in the forest-steppe cover type. The pubescent oak forest of the Danube forest-steppe has a distinctive character and comprises numerous small glades. The Balti meadow steppe in the north has all but disappeared in the last 100 years and the Budjac steppe in the south is currently preserved only as separate fragments of steppe associations. These two steppes were divided by a zone of forests and forest-steppe, covering the centre of Moldova. The flora of the Budjac Steppe was very diverse with the northern portion displaying mesophilic species of Feather grass, Fescue and other species whilst the southern portion is characteristic of more drought-resistant species of Feather grass.

Aquatic and marsh vegetation. The aquatic and marsh vegetation comprises about 60 species of vascular plants, which belong to 23 families and 27 genera. This type of vegetation was associated with areas in the floodplains and valleys of the main rivers, including natural lakes, wetlands, etc. In 1960, the total area of wetlands made up some 26,000 ha. Most of the wetlands were drained in the 1970-1980’s, and the area covered by marsh vegetation communities drastically reduced. On the other hand, the aquatic vegetation has conquered new areas as a result of human activities. The active siltation of water reservoirs upstream of the barrages or river embankments created conditions for enlargement of reedbeds and bulrush.
Meadow vegetation. Currently, the meadow vegetation covers some 11% of the country’s area and it is found mainly in river valleys. Meadows host 790 species of vascular plants, out of which 30 rare species have been included in the second edition of the Red Book of the Republic of Moldova. The meadow communities have largely degraded. As a result of hydro-technical works implemented in the river floodplains the groundwater level deepened and the meadow habitats lost their natural features. Many previously typical plants were replaced by ruderal species, the biologic productivity of meadows decreased. Most of these areas are used for pasture, and this is another factor of continuous meadows degradation.

Fauna. Despite the country’s relatively limited area and severe degradation of natural ecosystems, the ecosystems supporting a high diversity of animal species still remained in Moldova. The fauna of Moldova comprises 462 species of vertebrates and ca. 15,000 species of invertebrates (mostly represented by insects -12,000 species). Among vertebrates, there are 71 species of mammals, about 285 species of birds, 14 species of reptiles, 13 species of amphibians and 79 species of fish. Moldova has a number of European endemic mammal species and a big number of European endemic nesting forest birds. According to various estimates, the number of breeding bird species varies from 138 to 175. The two main rivers of Moldova – Dniester and Prut serve as migratory arteries that attract birds from Scandinavia, the Baltic countries and the East-European region. A large number of birds (especially inhabited in wetlands ecosystems) are migratory ones. However intensive land use severely affects fauna diversity and number. Natural wetlands and meadows were turned into arable lands what resulted in decrease of typical natural areas and degradation of remained ones; the remaining natural habitats have rather limited capacities to support wildlife. The present landscape is dominated by isolated forest stands providing shelter for most of remaining biodiversity but they are not connected each other. These forest stands surrounded by huge cultivated often mono-crop areas. Current state of many animal species especially rare ones is under continuous threat due to their restricted access to specific habitats, poaching and other mainly man-induced factors what is reflecting in the decreasing number of inhabited species and populations. Presently, the greatest fauna diversity is to be found in the lower Prut River valley including Beleu Lake, and the northern forest zone.

Fish resources. The Prut and Dniester Rivers, big water reservoir and big natural lakes still host commercial fish species, including valuable sturgeon (Acipenser nuidiventris), salmon (Huch hucho), goldfish (Eudontomyzon marnae), ide (Leuciscus idus), European mudminnow (Umbra krameri), streber (Zingel streber), perch (Zingel zingel), pike (Esox lucius), catfish (Silurus glanis), common bream (Abramis brama), common carp (Cyprinus carpio), roach (Rutilus rutilus), Black Sea herring (Alosa pontica), etc. In whole, the diversity of fish species is rather high but populations are not significant. The main reason for the drop is poaching and overall degradation of water ecosystems and specifically the modification of living and reproduction conditions of fish as a direct consequence of human activities. Introduced commercial fish species include: Abramis brama, Rutilus rutilus, Cyprinus carpio, Stizostedion lucioperca, Esox lucius, and Chinese carp (Hyphophthalmichthys molitrix, Aristichthys nobilis). Most of these fish are naturalized in the natural aquatic ecosystems thus damaging natural fish fauna.

Rare and endangered species. Out of total number of 1832 species of vascular plants, 96 species, or about 5% are under state protection, to some or another extent. The Red Book of the Republic of Moldova (second edition, 2001) includes 14 species of mammals, 39 species of birds, 8 species of reptiles, 1 species of amphibians and 37 species of insects. However, it should be
emphasized that official estimation of the number of threatened species is underestimated, particularly, in relation to vascular plants and insects. Assessments conducted by a number of key specialists in the field have shown that there is an additional number of rare and endangered species found in Moldova as follows (officially recognized number of endangered species in brackets): vascular plants – 397 (115); mammals – 25 (14); birds, without obligate migrants and occasional visitors – 42 (39); reptiles and amphibians – 12 (9), insects – 123 (37). The IUCN Red List, 2003, includes the following number of species found in Moldova: 10 species of birds (including migrants), nine species of mammals, one reptile, three species of amphibians, nine species of fish, six species of insects (although two of them have been mistakenly included). The species included in the Red Book are predominantly predators (including birds and mammals), bats, reptiles and aquatic animals. The reptiles are the most under threat. Species like Steppe viper or Banded chicken snake only remained in one or two biotopes in populations not exceeding a few tens of individuals. The number of Pond turtle (Emys orbicularis) has reduced considerably having disappeared from the Prut River tributaries. Among common species remained Green lizard (Lacerta viridis), Sand lizard (Lacerta agilis), Grass snake (Natrix natrix), and Water snake (Natrix tessellata). The amphibian species Spade-footed toad (Pelobates fuscus) is included in the Red Book, Fire salamander (Salamandra salamandra) are only sporadically found in the Prut River floodplain and in the north of the country, while such species as Dalmatian frog (Rana dalmatina), Bown frog and Yellow-bellied toad are rare and vulnerable. Several species of animals (Falco cherrug, Sicista subtilis, Neomys fodiens, Rhinolophus ferrumequinum, Neophron percnopterus, Bubo bubo, Circus macrourus, Vipera ursini, Elaphe quatuorlineata etc.) are not reproducing anymore in natural conditions and/or threatened to be extinct. Thirteen out of total 79 fish species are under state protection (source: State of Environmental Protection in the Republic of Moldova, 2006)

Protected areas. In early 2006, the fund of natural areas under state protection (established by the Law of the same name in 1998) comprised of 1225 objects totaling 66,467 ha or 1.96% of the country’s territory. In November 2006, the Law was modified towards including three wetland areas of international importance: the Lower Dniester (60,000 ha), the Lower Prut Lakes (19,152 ha) and the Unguri-Holosnita (15,553 ha). Thus, currently the total of natural protection areas is 158,265 ha which comprises 4.68% of the Moldova’s territory. In spite of Ramsar sites occupy the largest surface area under state protection, there were not developed special regulations and institutional infrastructure towards their on-site management aimed at sites’ protection and conservation. Among other protection areas with developed management regulatory frameworks, most are strict reserves (in conformity with a national terminology, scientific reserves) and landscape reserves (52% and 29%, respectively), followed by natural reserves (11.6%) and nature monuments (4.0%). The number and surface areas of the steppe and meadow vegetation, and landscape architecture monuments protection areas are very small. However, many of the protected areas and particularly, those related to wetlands, are administered by local public authorities, and the funds come from scarce local budgets. Most of these reserves are so called “paper reserves” without any management staff whatsoever, and as a rule, the protection requirements are not adhered to in the reserves. The Table 5 showing the natural objects and complexes under state protection is presented below.

<table>
<thead>
<tr>
<th>Table 5. Protected areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Categories of Protection areas</td>
</tr>
<tr>
<td>Ramsar Sites</td>
</tr>
<tr>
<td>Scientific (strict) reserves</td>
</tr>
<tr>
<td>Nature monuments</td>
</tr>
<tr>
<td>------------------</td>
</tr>
<tr>
<td>Natural reserves</td>
</tr>
<tr>
<td>Landscape reserves</td>
</tr>
<tr>
<td>Resource reserves</td>
</tr>
<tr>
<td>Multi-functional reserves</td>
</tr>
<tr>
<td>Botanical gardens</td>
</tr>
<tr>
<td>Dendrological gardens</td>
</tr>
<tr>
<td>Garden architecture monuments</td>
</tr>
<tr>
<td>Zoological gardens</td>
</tr>
<tr>
<td>TOTAL</td>
</tr>
</tbody>
</table>

Note: * area of the Ramsar site includes 1,755 ha of the Scientific Reserve “Lower Prut”

**Impact on environment.** Construction of dams and dykes, lands drying-out, over-exploitation of natural resources within the decades, extensive use of land for agricultural purposes, use of ecologically harmful technologies in agriculture and industry, air and water pollution, and other negative factors have led to a significant adverse impacts on the environment. The area of eroded land increases annually by 0.9%, and 26 million tons of soil are being lost due to erosion every year. The economic damage due to erosion resulting in a lost of the lands agricultural productivity is estimated at approximately 3.1 billion lei per year. Water pollution in Moldova is a serious environmental problem and agricultural practices contribute significantly to this. The application of chemical fertilizers, herbicides and pesticides, soil erosion, and the uncontrolled disposal of farm animal wastes are the major sources of water pollution from agriculture. Agricultural chemical inputs may also be contributing to groundwater pollution. In 2007, the average application of mineral fertilizers (in re-counting on active substance) was 21 kg/ha of sown area; in all, there was 16.1 tons of mineral fertilizers (active substance) applied. The total application of organic fertilizers amounted to 38.7 thousand tons, or on average 0.04 tons per ha. A number of activities related to environment protection (including biodiversity conservation) will be implemented within agricultural sectoral program described in Moldova’s Biological Diversity Conservation National Strategy and Action Plan (2002). These activities will include several specific measures to ensure biodiversity stability as it relates to agriculture and agricultural practices.

### 5.2 Socio-Economic Overview

In 2007, gross domestic product amounted 53354 million lei, and was 3.0% higher as compared to 2006. The share of industry was 37%, agriculture- 24%.

#### 5.2.1 Industry

Industrial enterprises of all types of ownership produced goods to the amount of 19936 million lei. The situation in the industrial sector is determined mainly by the enterprise activities from manufacturing industry, the share of which in 2007 made about 98% from the total volume of industrial production. In manufacturing industry leads food production (50%), then follow manufacture of non-metallic mineral products, except rubber and plastic products (16%), manufacture of wearing apparel (4.2%), manufacture of textiles (3.8%), manufacture of rubber and plastic products (2.4%), etc. Some decrease of about 3% as compared to previous year was caused by the recession of manufacture of sugar, distilled alcoholic drinks, wine, tobacco products, wearing apparel, wood and wood products, glass and glass products etc. At the same time, there was some growth of volume of industrial production in the such activities as mining...
and quarrying; manufacture of footwear, paper and paperboard, medicaments and pharmaceutical products, rubber and plastic products, fabricated metal products, domestic appliances, medical, precision and optical instruments, furniture, cement, lime and gypsum and cutting, shaping and finishing of stone. Main indices of industrial activity for the year 2007 are shown in the Table 6 below.

Table 6. Structure of the industry

<table>
<thead>
<tr>
<th>Activity</th>
<th>Value of production, Mio lei</th>
<th>Share, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industry – total</td>
<td>19936</td>
<td>100</td>
</tr>
<tr>
<td>Mining and quarrying</td>
<td>418,7</td>
<td>2</td>
</tr>
<tr>
<td>Manufacturing industry, of which:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manufacture of food products and beverages, of which:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Production, processing and preserving of meat and meat products</td>
<td>734,2</td>
<td>8,5</td>
</tr>
<tr>
<td>Processing and preserving of fruits and Vegetables</td>
<td>1042,6</td>
<td>12</td>
</tr>
<tr>
<td>Manufacture of dairy products</td>
<td>1006,7</td>
<td>11,7</td>
</tr>
<tr>
<td>Manufacture of products of flour-milling industry, of starches and starch products</td>
<td>58,5</td>
<td>0,7</td>
</tr>
<tr>
<td>Manufacture of prepared animal feeds</td>
<td>22,4</td>
<td>0,3</td>
</tr>
<tr>
<td>Manufacture of bread and pastry products</td>
<td>760,6</td>
<td>8,8</td>
</tr>
<tr>
<td>Manufacture of sugar</td>
<td>442,8</td>
<td>5</td>
</tr>
<tr>
<td>Manufacture of cocoa, chocolate and sugar confectionery</td>
<td>378,0</td>
<td>4,3</td>
</tr>
<tr>
<td>Manufacture of distilled alcoholic drinks</td>
<td>463,4</td>
<td>5,4</td>
</tr>
<tr>
<td>Manufacture of wine</td>
<td>1689,9</td>
<td>19,6</td>
</tr>
<tr>
<td>Production of mineral water and freshener Beverages</td>
<td>267,8</td>
<td>3,1</td>
</tr>
<tr>
<td>Manufacture of tobacco products</td>
<td>350,1</td>
<td>2</td>
</tr>
<tr>
<td>Manufacture of textiles</td>
<td>637,7</td>
<td>3,8</td>
</tr>
<tr>
<td>Manufacture of wearing apparel, dressing and dyeing of furs</td>
<td>702,6</td>
<td>4,2</td>
</tr>
<tr>
<td>Manufacture of leather &amp; leather products, of which:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manufacture of footwear</td>
<td>139,2</td>
<td>68</td>
</tr>
<tr>
<td>Manufacture of wood and wood products</td>
<td>31,4</td>
<td>0,2</td>
</tr>
<tr>
<td>Manufacture of paper and paperboard</td>
<td>502,2</td>
<td>3</td>
</tr>
<tr>
<td>Printing</td>
<td>187,6</td>
<td>1</td>
</tr>
<tr>
<td>Chemical industry, of which:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manufacture of medicaments and pharmaceutical products</td>
<td>89,9</td>
<td>37,8</td>
</tr>
</tbody>
</table>
Manufacture of rubber and plastic products 405,5 2,4
Manufacture of other non-metallic mineral products, of which: 2664,7 16
Manufacture of glass and glass products 672,7 25,3
Manufacture of tiles and bricks in baked clay 170,7 6,4
Manufacture of articles of concrete, gypsum and cement 376,7 14
Metallurgical industry 55,2 0,3
Manufacture of fabricated metal products, except machinery and equipment 346,7 2
Manufacture of machinery and equipment, of which: 340,7 2
Manufacture of agricultural machinery 134,4 39
Manufacture of machine tools 3,2 1
Manufacture of domestic appliances 34,8 10
Manufacture of electrical machinery and Apparatus 91,7 0,6
Manufacture of medical, precision and optical Instruments 279,0 1,7
Manufacture of furniture 318,8 2

5.2.2 Agriculture

The dominance of agriculture in Moldova’s economy derives from its moderate climate and productive soils. In 2007, the value of agricultural production amounted 12825 million lei, and was on about 25% as lower as compared to 2006. In the structure of a total agricultural production, the share plant production makes 52%, animal production – 42%. There was some decline of the agricultural production as compared to 2006, determined by the reduction of vegetal production with 33,4% and animal production with 1,8%. The structure of the agricultural production within plant and animal sectors is presented in the Table 7 below.

Table 7. Structure of the Agricultural Production

<table>
<thead>
<tr>
<th>Agricultural branches</th>
<th>Share, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural production- total</td>
<td>100</td>
</tr>
<tr>
<td>Plant production, of which:</td>
<td></td>
</tr>
<tr>
<td>Cereals</td>
<td>9,5</td>
</tr>
<tr>
<td>sugar beet (industrial)</td>
<td>2,1</td>
</tr>
<tr>
<td>Tobacco</td>
<td>0,4</td>
</tr>
<tr>
<td>Sunflower</td>
<td>3,8</td>
</tr>
<tr>
<td>Potatoes</td>
<td>4,5</td>
</tr>
<tr>
<td>vegetables, melons and gourds</td>
<td>6,2</td>
</tr>
<tr>
<td>Sown areas</td>
<td>1000 ha</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Sown areas – total</td>
<td>1499,2</td>
</tr>
<tr>
<td>Cereals and leguminous crops, of which:</td>
<td></td>
</tr>
<tr>
<td>winter wheat</td>
<td>307,1</td>
</tr>
<tr>
<td>winter barley</td>
<td>54,4</td>
</tr>
<tr>
<td>spring barley</td>
<td>73,2</td>
</tr>
<tr>
<td>grain maize</td>
<td>466,2</td>
</tr>
<tr>
<td>leguminous crops</td>
<td>39,3</td>
</tr>
<tr>
<td>Industrial crops, of which:</td>
<td>368,2</td>
</tr>
<tr>
<td>sugar beet</td>
<td>34,3</td>
</tr>
<tr>
<td>sunflower</td>
<td>233,6</td>
</tr>
<tr>
<td>soya</td>
<td>50,5</td>
</tr>
<tr>
<td>tobacco</td>
<td>3,1</td>
</tr>
<tr>
<td>Potatoes, vegetables and melons and gourds, of which:</td>
<td>81,5</td>
</tr>
<tr>
<td>potatoes</td>
<td>35,4</td>
</tr>
<tr>
<td>field vegetables</td>
<td>37,7</td>
</tr>
</tbody>
</table>


In 2007, the total number of cattle was 232 thousand capita, at that, 95% of cattle was being kept at private households and farms, but not in agricultural enterprises. The number of pigs was 299 thousand capita, 80% of which are kept at households and farms; number of sheep and goats - 853 thousand capita, 95% of which were kept at households and farms; horses - 58 thousand
of which 95% were kept at households and farms, and about 17 million capita of poultry 90% of which are kept at households and farms. Altogether in 2007 there were produced 149 thousand tons (in live weight) of cattle and poultry for slaughter; 604 thousand tons of milk; 704 million pcs. of eggs and 2146 tons of wool (in a natural weight).

5.2.3 Energy

The Republic of Moldova is almost totally dependent on the imports of fossil fuels. During the last decade, only 3-5% of the consumed energy was covered from internal sources. The country imports both primary energy resources (natural gas, petroleum products and coal) and electricity. Nearly half of the energy imports is natural gas, about 25% are liquid fuels, and the rest is mainly represented by electricity and coal. Most energy resources (over 70%) are spent for electricity and heat production (including domestic heating in both communal sector and individual households). Other direct users of energy resources are: the transport (about 15%), the industry (7%) and the agriculture sector (3%). There are the following power generation stations in Moldova: two electrical and heat generation stations (EHS) in Chisinau, one (“Nord”) - in Balti, one - in Dnestrovsk, and two hydropower stations on the Dniester and Prut Rivers. The largest electricity producer in the country is the Dnestrovsk power station which produces 85% of total electricity.

5.2.4 Some Other Demographic and Socio-Economic Data

The country’s population is 3,419 million people; the share of urban population is 41%, rural - 59%. The gender ratio is 48% - males; 52% - females; birth rate is 15,3/1000; death rate is 12,3/1000. In 2007, the average monthly salary of an employee in the national economy amounted 2063 lei or 21,5% more than in the previous year. In the budgetary sphere, the average salary was 1625 lei, while in the real sphere of economy - 2292 lei. According to the data of the National Agency for Labor Force Employment, The number of officially registered unemployed on the 1st of January 2008 was recorded at the level of 18,9 thousand people while the number of the unemployed, defined in accordance with the criteria of the International Labor Office, was about 70 thousand people.

6. Project Description

6.1 Project rationale

The Competitiveness Enhancement Project (CEP) will help the Government to continue the earlier started business regulatory reform and to commence modernization of the national standards and quality system, all together, leading to improved competitiveness of Moldovan economy in international markets and its attractiveness for FDI. The project timing is highly opportune, as it can build on the political momentum of the European choice of the Moldovan leadership and, at the same time, address growing non-tariff barriers for some Moldovan products. The CEP builds on the experiences of the two Private Sector Development (PSD) Projects which created constituency for broader reforms of business environment and access to technical assistance, training, and investment finance. In addition, the project builds on the findings of the recently completed Investment Climate Assessment (ICA), the Financial Sector Assessment Program (FSAP), the Country Economic Memorandum, the Trade Development
Study as well as on the experience of other Bank financed technology and business environment projects implemented in Turkey, Tunisia, Brazil and Indonesia.

6.2 Project Objective

The overall objective of the Competitiveness Enhancement Project is to assist Moldova in enhancing competitiveness of enterprises through improvements in the business environment, enhancing access to finance, and making adequate standards, testing, and quality improvement services available to enterprises. Its implementation will promote the creation in Moldova a competitive business environment that would contribute to maintaining macroeconomic stability, establishing sustainable economic growth and generate employment through supporting improvements in the business environment, including removal of excessive administrative barriers, reduction of the regulatory compliance costs, and introduction of the regulatory impact assessment of new legislative initiatives.

6.3 Project Components

The project consists of the following main components:

(i) **Business Environment Improvement.** This component contributes to the overall government effort in the area of improving business environment and provides strategic input, including continuous support for developing regulatory reform strategy, building institutional capacity for deregulation, and introducing Regulatory Impact Assessment (RIA) in the legislative process of Moldova. The Component also support technical assistance with review of the regulations and drafting relevant legal documents, setting up regulatory registries and information systems, and other public awareness activities.

(ii) **Modernization of MSTQ System.** This component addresses product quality obstacles faced by enterprises competing in domestic and international markets related to poor MSTQ infrastructure and services. The objective of the MSTQ Component is to strengthen capacity of the MSTQ system to provide internationally acceptable (especially, EU-compatible) MSTQ services. This objective is to be achieved through assistance to the Government in: (i) revising and strengthening relevant MSTQ regulations and implementing institutional reorganization reform; (ii) building capacity in metrology and testing area by upgrading most urgently needed by the industry laboratories in National Institute for Standards and Metrology (NISM) and strengthening their institutional capacity in order to perform basic measurements and calibrations, as well as testing for enterprises; (iii) upgrading standards system through translation and adaptation of most frequently used standards, strengthening institutional capacity of NISM in this area, and revising relevant regulations in line with international best practices; (iv) strengthening accreditation and certification capacity of Accreditation Center; and (v) improving quality assurance and conformity system by strengthening functions of the Conformity Assessment Board and know-how transfer from the EU.

(iii) **Modernization of MSTQ System Component** aims to facilitate of enterprise access to MSTQ services. This Component helps promoting the use of MSTQ services by enterprises, especially small and medium (SMEs), through the use of the Matching Grants Facility (MGF). It aims to strengthen the competitiveness of Moldovan companies, both to increase exports and
secure their domestic market position by improving quality of their products and services. The Facility provides financial support on a matching basis to enterprises willing to use external technical assistance for upgrading quality of their products and services initially by obtaining international certifications, such as ISO and HACCP, and once the scheme is well established, by undertaking feasibility studies and upgrading technological processes. The project will provide the grant facility and will support technical assistance, training and some administration costs of the Matching Grant Administrator (MGA). The Facility is to be administered by an MGA.

*The expanded facility of the Component* aims to reimburse beneficiary enterprise for up to 50% of expenditures in the following two broad areas: (i) consulting services for preparation of business plans, feasibility studies, marketing, and development of new products and services; and (ii) on-the-job training of management and personnel.

(iv) **Facilitation of access to finance.** This Component contributes to improving access to finance of private enterprises (mostly SMEs). Given that the main obstacles at the moment include poor collateral on the part of the borrowers and inefficient credit information system, the project will help in: (i) creating regulatory framework for establishment of a credit bureau and development of expertise for better tracking credit histories, and (ii) building relevant capacity in implementing and administering credit guarantee schemes in Moldova, as well as promoting of the SME-tailored financial products and services within Moldovan financial sector.

(v) **The New Line of Credit Component** represents proactive Project’s restructuring given that the original credit amount is insufficient to cover this activity, which has become highly relevant in the crisis conditions. The component will provide funding to qualified banks for on-lending to eligible exporting enterprises in support of their working capital and investment financing needs. The funding will be provided not to any particular sub-sector and it will be open to all enterprises meeting eligibility criteria. Based on the demand analysis and taking into account other line of credits already available in Moldova, it is expected that most sub-projects will be with large and medium-size companies in manufacturing, agricultural production and agro-processing sectors. It will build upon and expand the existing CEP activities, with the overall objective of facilitating growth of export-oriented sector, namely, agricultural production, agro processing and manufacturing, with higher value added in Moldova through a combination of: (i) the line of credit through qualified commercial banks to support investment and working capital needs of exporting enterprises; and (ii) the expanded matching grant scheme to assist enterprises with upgrading their labor skills and management practices, and introducing new products. The additional financing is to be used to fund qualified commercial banks for on-lending to eligible exporting enterprises in support of their working capital and investment financing needs. The funding will be open to all enterprises meeting financial eligibility criteria. Based on the demand analysis and taking into account other line of credits already available in Moldova, the most sub-projects will be with large and medium-size companies in manufacturing, agricultural production and agro-processing sectors.

**6.4 Sub-Projects Coverage and Potential Activities**

The sub-projects under the additional financing of the New Line of Credit Component will be implemented country wide on demand by beneficiary enterprises for credit. Most sub-projects will be implemented by large and medium-size companies from agricultural, agro-processing and manufacturing sectors. The project will support also construction of new buildings but only in
the case when land acquisition is not necessary and there are no any resettlement issues. The project also will not support eviction or similar enforcement of laws addressing illegal occupation of state land. All civil construction works planned will be executed on existing land plots which are already in the possession of the respective project beneficiary. It is expected that project facilities will not be located in protection areas and critical habitats as well as in cultural heritage areas. However, when such projects occur, they will be not deemed as illegible \textit{a priori}, but as a subjects of a full EIA. Sub-projects’ agricultural, agro-processing and manufactory activities will be implementing within the same river basin and within the same region where they are placed now. Activities not supported by the World Bank will include: tobacco growing/processing; production and processing of genetically modified organisms (GMOs), use of banned pesticides, use of species provided in Appendix 1 to the Bonn Convention on International Trade in Endangered Species of Wild Fauna and Flora, etc.

7. Analysis of potential environmental impacts

7.1 Important Environmental Components

The environmental components which may be adversely affected by projects at their construction, operation and decommissioning stages generally are grouped as physical, biological and socio-economic ones. Examples of the environmental components which might be of a different levels and attributes are presented in the Table 9 below.

<table>
<thead>
<tr>
<th>Physical Components</th>
<th>Biological Components</th>
<th>Socioeconomic Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Physical component of ecosystems (habitats)</td>
<td>• Fauna</td>
<td>• Human health</td>
</tr>
<tr>
<td>• Air</td>
<td>• Flora</td>
<td>• Settlements</td>
</tr>
<tr>
<td>• Soil (quality, structure, fertility, erodibility)</td>
<td>• Vegetation communities/ forests</td>
<td>• Cultural heritages</td>
</tr>
<tr>
<td>• Land</td>
<td>• Animals’ and plants’ populations (number, abundance, distribution, etc.)</td>
<td>• Employment</td>
</tr>
<tr>
<td>• Water resources (surface water &amp; underground water: quality, availability, hydrological regime)</td>
<td>• Biological component of forest, aquatic, meadow, steppe and other ecosystems (as a whole), etc.</td>
<td>• Demography</td>
</tr>
<tr>
<td>• Landscape/</td>
<td></td>
<td>• Income</td>
</tr>
</tbody>
</table>

Table 9. Environmental Components
In relation to sub-projects, the affected environmental components will by mainly physical ones; these are air (impact to quality), soil (impact to quality, structure, erosion, etc.) and water resources (quality, consumption, etc.).

7.2 Potential Environmental and Risks and Impacts

The sub-projects’ environmental risk is generally evaluated mostly moderate and as high in some cases, taking into account that some of them might relate to Category A projects. In most of the cases potential impacts generated by sub-project activities are expected to be easily mitigated through good project design and implementation practices, so the risk from them is expected to be insignificant. At the same time additional TA activities to strengthen the existing institutional capacities to ensure that effective EAs are conducted, EMPs are implemented properly and monitoring systems are put in place and monitoring results are acted upon need to be implemented. Furthermore, it is necessary to mention needs for improvements of environmental enforcement capacities. If enforcement is carried out in an efficient manner, the environmental risks associated with the various activities to be supported through the Project may be substantially reduced. Risks for those activities that would lead to impacts which can be governed by specific pieces of legal instrumentation would be low, given that enforcement is implemented. Risks for which there is no effective legal instrument would vary depending on the nature and level of impact, and the cost of mitigation. Of particular concern would be those activities resulting in water, soil and air pollution, and soil erosion. Sustainable industrial and agricultural techniques which are to be supported through the additional financing will contribute to better environmental protection. Recommended basic environmental training of both PIU staff and loan officers (refer to Chapter 11 below) will further reduce environmental risks. The project does not entail any direct social risks as its implementation do not presume any job losses/relocations. On the contrary, the project will make entrepreneurial activities easier to pursue and will likely increase demand for labor in more competitive enterprises.

Generally, all potential impacts could be grouped as follows: (a) impacts on the physical environment (e.g. land/soil, water resources, air/ acoustic, landscape/aesthetic); (b) impacts on the biological or natural environment (e.g. flora, fauna, habitats, eco-systems); and, (c) impacts on human socio-economic environment (e.g. in such aspects as human health, settlements, land use, agricultural production, income of local people, employment, business, etc.).

7.3 Analysis of Potential Environmental Impacts from different types of subprojects

The impacts associated with the different types of sub-projects might be positive and negative. Positive impacts attribute mainly to socio-economic environment. Negative impacts attribute to water, air and soil pollution, additional water and energy consumption (if more goods are produced), noise, odor, loss of biodiversity and habitats, etc. Measures to be taken to minimize potential negative environmental impacts depend on their type, magnitude, combination and distribution.
**Potential Environmental Impacts from Manufacturing Sector.** The industrial sector is responsible for air and water pollution, soil contamination and waste generation, including hazardous ones. Major pollution sources are the energy and heat generation units, mining, cement and lime productions. Some industrial activities lead to ‘landscape pollution’; they generate noise and other nuisances. Data on the environmental impact of industry in the country is very limited. There is lack of integrated indicator of the industrial impact on the environment. Normally, releases volume and emissions value reported by the enterprises are being counted on the basis of the input and technology process data instead of to be directly measured. This occurs because almost all industrial laboratories have been liquidated. In whole, there is a lack of integrated indicators of the industrial impact on the environment. Industrial pollutants emissions into the atmosphere and discharges into surface waters are monitored by the Ecological Inspectorate at the subject of their compliance with established allowable values for further processing in accordance with the Law on Taxes for Pollution of the Environment (1998) and other applicable laws. This information is stored in the Ecological Inspectorate but not reported in official statistics. As a gap environmental management, and particularly, environmental pollution monitoring, there should be mentioned that industrial pollution is not being comprehensively analyzed, and reduction targets are not established in industrial development programs or other related documents. Though enterprises must report annually on their air emissions, wastewater discharges and waste generation reports are not mandatory for industry. Only waste generated by industries is being reported on a regular basis in official information sources since enterprises report annually to regional authorities on their annual waste generation. Based on these reports, taxes are calculated and collected from enterprises, though enterprises do not need permits for solid waste generation (only an authorization). Recent analysis of available fragmented data on environmental pollution from industrial sector has shown that water use, waste generation, greenhouse gases emission and atmospheric pollution are gradually reducing while economic activity is increasing (i.e., there is a some positive decoupling trend). Improvement of environmental efficiency in industry may result from structural changes (promoting less contaminating production) or/and technology upgrade (cleaner production technologies, end-of-pipe pollution reduction measures). A number of industries introduced new techniques and technologies which had - directly or indirectly - a positive effect on the environment. In 2005, industries spent for technological modernization approximately 89,5 million lei, what is 30 more as compared to 2004. Industrial cleaner production programs are being implemented with technical assistance from the EU and other countries. So far, 25 industrial operators implemented such programs. In 2005 investments in industry reached MDL 196 million (comparable to the level of 2003). Despite several structural reforms implemented in Moldova, they showed a little effect towards environmental improvement. Implementation of environmental policies in industrial sector needs to be improved through setting of and compliance with environmental priorities and targets, efficient monitoring and better coordination between ministries and use of economic mechanisms.

**Environmental Impacts from Agricultural Production Sector.** The present agriculture system practiced in Moldova can be characterized as extensive and poorly organized. This is detrimental both to agriculture production and the status of soils and other natural resources. Big share of lands used in agriculture does not allow maintaining sustainable balance between natural and anthropic ecosystems, what results in degradation of soil, adversely affects the biodiversity and an environment, as a whole. At the beginning of 2005, approximately one third of the land was under small farms of maximum 2-3 ha. The rest of agriculture land was consolidated to various
extents and in various forms (e.g. leasing, cooperatives, farmers associations, etc.). A land market is developing and agricultural land is being further consolidated. Since the consolidation of agriculture land is an ongoing process, now it is crucial to promote the approach of adapting agriculture activities to the concrete features of the landscape. Concerning potential impacts from crops production, during the last decade, the area of cereals (particularly wheat and corn) has increased considerably, while the areas cultivated with forage crops dropped. The increase of areas under corn resulted in considerable loss of the soil organic matter, especially on slopes (in Moldova 80% of agriculture land is on slopes). The share of tilled crops steadily increased although to conserve the soil the proportion of tilled crops should be kept within 50% of the sown area. The pesticides usage in agriculture are often out of control of environmental authorities because they are applied on private lands and their owners are not obliged by law to report on pesticides application. Over last years, the use of mineral fertilizer decreased 10-fold while amount of applied manure also dropped substantially. Cattle breeding also raised environmental problem because of overgrazing of pastures; besides since the majority of cattle is kept in private household, solid wastes generated by cattle are not managed properly what contributes to soil, underground and water pollution by organic substances and pathogens. Fertilizers application and pasturing also strongly contribute to pollution of surface waters by nutrients which enter the water bodies with surface run-off.

Potential Environmental Impacts from Agro-processing sector. The share of this sector is 50% from the total country’s manufacturing. The impacts from this sector are mostly relate to surface water and groundwater pollution through solid and liquid wastes generation and disposal, contribution to surface water pollution through effluents of industrial wastewater, odor, etc.

7.2 Positive Impacts

Sub-projects to be implemented under the New Credit Line Project Component will generate a great number of both direct and indirect positive impacts. Direct positive impacts will be generated by increased production, products and goods within sectoral activities which would result in creation of new jobs and respectively, more employment, increased income, as well as from direct inputs from loans. Indirect positive impacts form sectoral activities will relate to overall improving of business environment, increased exports and secured enterprises domestic market position, introduction of advanced technologies and techniques, creating new opportunities for access to foreign markets, enhancement competitiveness of domestic production and products, contribution to poverty reduction and food safety, improvement of country’s socio-economic conditions and others. Some positive direct and indirect impacts/benefits generated by activities within concerned sectors and direct inputs from loans are presented in the Tables 10 & 11 below.

Table 10. Positive impacts generated by sectoral activities

<table>
<thead>
<tr>
<th>Sector</th>
<th>Positive impacts/ Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture: Annual Crop &amp; Plantation</td>
<td></td>
</tr>
<tr>
<td>Crop Production; Meet &amp; Poultry</td>
<td>Introduction of advances agricultural techniques, use of advanced machinery &amp; equipment,</td>
</tr>
<tr>
<td>Sector</td>
<td>Positive impacts/ Benefits</td>
</tr>
<tr>
<td>--------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Production</td>
<td>increased crop and plantation crop production, mammalian livestock and poultry production; creating new opportunities for access to foreign markets, creating new jobs, contribution to ensuring of food security, contribution to poverty reduction in rural area and generally, to improvement of socio-economic conditions in rural areas, etc. Providing alternative source of protein nutrition for population thus contributing to improvement of human health, creating opportunities for export, creating new jobs &amp; increased income, etc.</td>
</tr>
<tr>
<td>Aquaculture</td>
<td>Introduction of new technologies &amp; quality standards at enterprises, use of advanced machinery &amp; equipment, providing additional value to produced agricultural production, creating new opportunities for access to foreign markets, providing more food thus ensuring country’s food safely; creating new jobs and increased incomes, contribute to improvement of socio-economic conditions urban and rural areas, etc.</td>
</tr>
<tr>
<td>Agro-processing: Dairy, Meet and Poultry Processing, Vegetable Oil Processing, Sugar Manufacturing, Food and Beverage Processing, etc.</td>
<td>Introduction of new technologies &amp; quality standards at enterprises, use of advanced machinery &amp; equipment, creating new opportunities for access to foreign markets; providing machinery and other equipment for other sectors of economy (e.g., farm machinery for agriculture), providing more goods thus contributing to improvement of living conditions, providing new jobs and increased incomes, etc.</td>
</tr>
<tr>
<td>Manufacturing: Cement &amp; Lime, Ceramics, Glass, Textile Manufacturing, Tanning &amp; Leather Finishing, Printing, Construction Material Extraction, Surface Treatment of Metals and Plastics, Metal, Plastic &amp; Rubber Products manufacturing, Sawmilling &amp; Manufactured Wood Products, Board &amp; Particle-based Products, Pharmaceuticals &amp;Biotechnology, Semiconductors &amp; Other Electronics manufacturing</td>
<td>Providing new jobs &amp; better income, contributing to development of infra-structure, contribution to improvement of living and work conditions, and in general, to socio-economic conditions in urban and rural areas, etc.</td>
</tr>
<tr>
<td>Construction</td>
<td>Sand, aggregate materials, cement, lime provide the materials for new roads construction and rehabilitation of existing ones as well as for construction of new buildings of socio-economic designation; this may result in improved access to new, including foreign, markets and respectively; in improved incomes, more jobs and generally, in improvement of socio-economic conditions, etc.</td>
</tr>
<tr>
<td>Input</td>
<td>Positive Impact</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Seeds - Agriculture: for Annual Crop &amp; Plantation Crop Production, Aquaculture</td>
<td>Increased agricultural production; increased rural income; improvement of rural economy; contribution to country’s food security, etc.</td>
</tr>
<tr>
<td>Fertilizers - Agriculture: for Annual Crop &amp; Plantation Crop Production</td>
<td>Improved soil quality, increased agricultural production; increased rural income; rural economy improved; contribution to country’s food security, etc.</td>
</tr>
<tr>
<td>Pesticides - Agriculture: for Annual Crop &amp; Plantation Crop Production; Agro-processing: Mammalian Livestock &amp; Poultry Production</td>
<td>Increased agricultural production; increased rural income; rural economy improved; contribution to country’s food security, etc.</td>
</tr>
<tr>
<td>Pedigree seeds - Agriculture: Mammalian Livestock &amp; Poultry Production</td>
<td>Fewer animals required for the same production volume; improved quality of production and respective products for markets, including foreign ones; increased farm income; improved rural economic situation, etc.</td>
</tr>
<tr>
<td>Animals for finishing and dairy - Agro-processing: Meet &amp; Poultry Processing</td>
<td>Improved farm income &amp; rural economic situation; contribution to country’s food security, etc.</td>
</tr>
<tr>
<td>Machinery and other equipment – Agriculture, Agro-processing, Manufacturing</td>
<td>Reduced labor burden for rural employees; improved farms’ efficiency; increased production volume, improved soil preparation, improved rural economic conditions, etc. In fact, for primary processing equipment the positive impact will be: Additional value to agricultural production resulting in improved local economic situation through more jobs provided; improved farm income; reduction of transportation costs and fuel consumption, etc.</td>
</tr>
<tr>
<td>Vehicles – all sectors</td>
<td>Improved labor efficiency resulting in improved profits</td>
</tr>
<tr>
<td>Construction – all sectors</td>
<td>In fact, for stock of machinery and chemicals the positive impact will be: Improved livestock husbandry; better protection of machinery against weather conditions thus contributing to farms net profit; prevention of chemicals’ leakages and accidental spills, better chemicals’ quality, etc.</td>
</tr>
<tr>
<td>Storage facilities – all sectors</td>
<td>In fact, for fuel, grain and other products, the positive impact will be: Easy fuel and lubricants handling, avoidance of fuel spills, decease of fuel wastage; decrease spoilage of crops and grains resulting in improved economic efficiency and higher farm incomes</td>
</tr>
<tr>
<td>Fencing materials – Agriculture</td>
<td>Reduced private plots’ boundaries disputes;</td>
</tr>
</tbody>
</table>
### Input

<table>
<thead>
<tr>
<th>Positive Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>improved livestock husbandry; etc.</td>
</tr>
</tbody>
</table>

**Fuel, lubricants – all sectors**

- Ability to better run machinery and vehicles which will result to increased labor efficiency, increase income, etc.

### 7.1 Negative Impacts

Negative impacts mainly relate to physical and biological environmental components and are linked to water, air and soil pollution, soil erosion, loss of biodiversity and habitats, energy and water consumption as well as use of other natural resources. The major agricultural impacts are related to livestock and poultry production, both on the small farm holding and the large commercial farm. This may result in increased volumes of animal waste, including contaminated by pesticides affecting soil, groundwater (through leachate from septic tanks) and surface water quality, human health and biodiversity, as well as soil degradation/ compaction due intensive pasturing, loss of agricultural (and remained steppe) biodiversity, etc. In agro-processing sector the main impacts are related to surface water pollution through increased concentrations of pollutants in wastewater effluents and emissions to air, mostly dust and odor. In manufacturing sector main impacts are surface water pollution through increase concentrations of pollutants in wastewater effluents, emissions to air (dust/ particulate matter, often toxic substances), acoustic, vibration, water and energy consumption, aesthetics. During construction activities which may have a relevance to all above sectors, the main negative impacts are generated during construction phase and relate to soil erosion, soil and water pollution through waste generation, air pollution, acoustic and aesthetics.

The most common potential negative impacts from sectoral activities and construction activities and their significance are summarized in the Table 12 below.

#### Table 12. Potential negative impacts generated by sectoral activities and construction activities

<table>
<thead>
<tr>
<th>Enterprise Category</th>
<th>Potential Impacts</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Agro-processing:</strong></td>
<td>• Water and energy consumption</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>• Water pollution</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>• Soil pollution</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>• Odor</td>
<td>Moderate</td>
</tr>
<tr>
<td></td>
<td>• Soil degradation (soil erosion, loss of productive capacity, compaction, etc.)</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>• Soil pollution (e.g., by pesticides)</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>• Surface (through runoffs) and underground (though infiltration) water pollution</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>• Loss of agricultural biodiversity (due to cattle grazing)</td>
<td>High</td>
</tr>
<tr>
<td><strong>Agriculture &amp; Aquaculture</strong></td>
<td>• Soil degradation (soil erosion, loss of productive capacity, compaction, etc.)</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>• Soil pollution (e.g., by pesticides)</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>• Surface (through runoffs) and underground (though infiltration) water pollution</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>• Loss of agricultural biodiversity (due to cattle grazing)</td>
<td>High</td>
</tr>
<tr>
<td>Enterprise Category</td>
<td>Potential Impacts</td>
<td>Level of Significance</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>-----------------------------------------------------------------------------------</td>
<td>----------------------</td>
</tr>
<tr>
<td></td>
<td>• Alien species (aquaculture), etc.</td>
<td>Moderate</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>• Water and energy consumption</td>
<td>Very high</td>
</tr>
<tr>
<td></td>
<td>• Surface water pollution by hazardous chemicals</td>
<td>Very high</td>
</tr>
<tr>
<td></td>
<td>• Air pollution</td>
<td>Very high</td>
</tr>
<tr>
<td></td>
<td>• Biodiversity/ habitats loss</td>
<td>Moderate</td>
</tr>
<tr>
<td></td>
<td>• Soil and water pollution through hazardous wastes generation and disposal</td>
<td>Moderate</td>
</tr>
<tr>
<td>Extraction industry:</td>
<td>• Air pollution (dust, particulate matter)</td>
<td>High</td>
</tr>
<tr>
<td>Non-renewable resources</td>
<td>• Acoustic</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>• Vibrations</td>
<td>Moderate</td>
</tr>
<tr>
<td></td>
<td>• Aesthetics, etc.</td>
<td>High</td>
</tr>
<tr>
<td>Construction</td>
<td>• Soil erosion</td>
<td>Moderate</td>
</tr>
<tr>
<td>(construction phase)</td>
<td>• Soil pollution</td>
<td>Moderate</td>
</tr>
<tr>
<td></td>
<td>• Land degradation/ aesthetics</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>• Air pollution</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>• Acoustic</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>• Water pollution</td>
<td>Moderate</td>
</tr>
</tbody>
</table>

More detailed description of impacts which may arise from each probable activity as per sectors of concerns are presented in the Environmental Guidelines (see annex C, D and E).

**7.6 Cumulative Impacts**

Cumulative impacts are not likely to be an issue as the Project distributes its loan activities more or less evenly throughout the country. In the agricultural production sector, if there is a concentration of loans for the purchase of a large number of livestock in one particular watershed, without effective waste management, the main river of the watershed could become heavily polluted as a result of a high concentration of livestock.

Some activities may require additional water consumption thus contributing to lowering of groundwater table, or contribute to water pollution though additional polluted effluents thus contributing to deterioration of surface water quality and respectively, loss or degradation of aquatic habitats, biodiversity degradation, etc. Pesticide and chemical fertilizer use in agricultural production may have a severe cumulative effect. Enterprises in a single small watershed could cumulatively have a significant effect on surface water bodies, resulting in damaged of aquatic ecosystems and affecting water quality downstream, sometimes in adjacent countries. Similarly, the impact on water quality of a common river used by several processing plants could be significant.

The environmental concerns in manufacturing activities will mainly focus on emissions to air and effluent discharges. In spite, emissions and effluent within each activity have to comply with
established requirements, cumulatively, all of the industries in one region (e.g. in a small closed valley with poor air circulation) could significantly contribute to the deterioration of overall air quality, resulting in impact on human health. However, taken into consideration that all mitigatory measures are taken, these impacts are not likely to be severe.

7.7 Residual Impacts

Residual impacts are those that remain after all mitigation has been carried out. Assuming that all mitigation as indicated in the guideline tables are implemented appropriately, the residual effects, even cumulatively on all sub-projects, should not be significant. Expert judgment on expected residual impacts from sectoral activities within sub-projects implementation once all mitigatory measures are taken is presented in Annexes C, D and E. Summary of probable residual impacts generated by sectoral activities is presented in the Table 13 below.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Probable Residual Impact</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-renewable resource extraction industry</td>
<td>Aesthetics Surface water &amp; underground water pollution, soil pollution, soil erosion</td>
<td>Moderate</td>
</tr>
<tr>
<td>Agriculture</td>
<td>Surface water &amp; underground water pollution, soil pollution, soil erosion</td>
<td>Low-moderate</td>
</tr>
<tr>
<td>Agro-processing</td>
<td>Surface and underground water pollution, air pollution</td>
<td>Low</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>Air &amp; surface water pollution</td>
<td>Low-moderate</td>
</tr>
<tr>
<td>Construction</td>
<td>Surface water pollution, soil erosion</td>
<td>Low</td>
</tr>
</tbody>
</table>

The key issue to minimize residual impacts is an “effective management”; it means that, where required, comprehensive EIA and comprehensive ecological expertise has to be carried out, environmental management plans must be complied appropriately, be sound and implemented effectively, and effective monitoring has to be performed.

7.8 Indirect Impacts

Indirect (or Secondary) impacts are those arising from activities associated with direct activities implementing within the project implementation. These might be positive and negative social, economic, or environmental impacts of agricultural and industrial production, and agro-processing. In fact, in agricultural production, agro-processing and industrial sectors these may relate to purchase of more goods (e.g., fertilizers and pesticides for agricultural production), more transportation service, more fuel, utilities, labor, etc.)

Negative indirect environmental impacts resulted from activities of CEP projects have to be considered in the EIA and relevant mitigation has to be suggested.

8. Environmental Guidelines

8.1 Purpose of Environmental Guidelines
The purpose of the project Environmental Guidelines is to assist the loan officers, PIU staff, subborrowers as well as environmental specialists in determining the potential environmental impacts of sub-projects and specific conditions to each of the sub-project loans to ensure that potential impacts are minimized, if not entirely avoided. The Guidelines provide the anticipated sub-project activities and the impacts that they may have on environmental components as well as mitigation measures to be undertaken to minimize or even prevent impacts on environment. In particular, the CLD, PIU and loan officers will use three sets of tables presented in the Annexes C, D and E which will assist them in determining of environmental impacts that can be expected from different types of projects in various sectors. Knowing the impacts to be expected from various types of subprojects, the loan officer as well as the subproject designer/beneficiary can define the mitigatory measures required as a condition for the loan. These Guidelines may be also be used for the purpose of environmental monitoring of sub-projects.

Since these are only guidelines and the information contained within is generalized, in some instances, the officers would be advised to seek local professional opinion (e.g. Ministry of Ecology and Natural Resources, agricultural and industrial extension staff, research officers, designers, etc.) for more specific information and advices.

8.2 Content of Environmental Guidelines

The Environmental Guidelines provide the following: (a) Rules and Procedures for sub-projects environmental screening to be funded under the New Line of Credit Component; (b) Environmental Screening Checklist (presented in the Annex A, vol. II); (c) Content and format for the Management Plan to be complied for sub-projects and format for Environmental Monitoring Plan to be follow to achieve environmental protection requirements under the loan (Annex B in vol. II); as well as, (d) Tables that describe potential environmental impacts that may occur as a result of sub-project activities as well as needed mitigation measures three main sectors: Agricultural Production (Annex C, vol. II), Agro-processing (Annex D, vol. II), and Manufacturing & Construction (Annex E, vol. II), which may be financed by the credit.

8.3 Rules and Procedures for Sub-projects Environmental Screening

8.3.1 Introductory notes

Screening of each proposed project for funding is to be undertaken in order to determine the appropriate extent and type of Environmental Assessment as well as which one of ten World Bank’s Policies will be triggered. The attribution of the project type to WB’s EA category and respectively, environmental risk that might be generated (i.e., high risk – by the Category A projects; from moderate to low risk – by the Category B projects, and from low to no risk - by the Category C projects) is to some extent, an expert judgment.

Generally the significance of impacts and the selection of screening category accordingly, depends on the type and scale of the project, the location and sensitivity of environmental issues, and the nature and magnitude of the potential impacts.
In terms of type and scale of the projects. Usually the following projects are considered as having “significant” impacts and respectively should be qualified as category A projects:

- significantly affect human populations or alter environmentally important areas, including wetlands, native forests, grasslands, and other major natural habitats.
- “significant” potential impacts might be also considered the following: direct pollutant discharges that are large enough to cause degradation of air, water or soil;
- large-scale physical disturbance of the site and/or surroundings;
- extraction, consumption, or conversion of substantial amounts of forest and other natural resources;
- measurable modification of hydrologic cycle;
- hazardous materials in more than incidental quantities;
- and involuntary displacement of people and other significant social disturbances.

In terms of location: There are a number of locations which should considered while deciding to qualify the project as category “A”:

- in or near sensitive and valuable ecosystems — wetlands, wildlands, and habitat of endangered species;
- in or near areas with archaeological and/or historical sites or existing cultural and social institutions;
- in densely populated areas, where resettlement may be required or potential pollution impact and other disturbances may significantly affect communities;
- in regions subject to heavy development activities or where there are conflicts in natural resource allocation; along watercourses, in aquifer recharge areas or in reservoir catchments used for potable water supply; and on lands or waters containing valuable resources (such as fisheries, minerals, medicinal plants, prime agricultural soils).

In terms of sensitivity. This is in the case when the project might involve activities or environmental features that are always of particular concern to the Bank as well as to the borrower. These issues may include (but are not limited to): conversion of wetlands, potential adverse effects on protected areas or sites, involuntary resettlement, impacts on international waterways and other transboundary issues, and toxic waste disposal.

In terms of magnitude. There are a number of ways in which magnitude can be measured, such as the absolute amount of a resource or ecosystem affected, the amount affected relative to the existing stock of the resource or ecosystem, the intensity of the impact and its timing and duration. In addition, the probability of occurrence for a specific impact and the cumulative impact of the proposed action and other planned or ongoing actions may need to be considered.

Examples of projects that fall under Categories A, B, and C are provided in the Table 3 in Chapter 4.2. However, this list is just a starting point and framework for the screening decision. Because of other factors involved such as project sitting, the nature of impacts, and the need for the EA process to be flexible enough to accommodate them, the lists should not be used as the sole basis for screening.
As there is a general compliance between World Bank and conventional Moldovan project categories liable to various types of the environment assessment while during conducting environmental screening it is necessary to take into consideration the following:

- To the Category A projects will be attributed all planned activities which require a full EIA study and listed in the Regulation on Environmental Impact Assessment (1996) and in the Order of Organization and Conducting of the State Ecological Expertise (2002) in case they attribute to newly planned activities/enterprises, as well as those which the MENR considers as projects which also need a full EIA (projects placed in or in the vicinity of environmentally sensitive areas and habitat of endangered species; in or near archaeological, historical, cultural sites and socially vulnerable areas).

- To the Category B projects may be attributed all planned activities which may have adverse impacts on the environment but not listed in the Regulation on Environmental Impact Assessment (1996). Additionally, Category B might be attributed to those listed projects/enterprises, which were already built and, respectively, passed through the formal procedure of a full EIA, but the purpose of potential funding is their small-scale upgrading/improvements. In these cases environmental assessment is required only for their newly developing parts (construction, reconstruction, rehabilitation, expansion of industrial facilities, etc.).

- To the Category C projects will be mainly attributed those which are expected to have minor impacts on environment and therefore are not needed to be passed through the formal procedures of EIA and SEE.

For Category C projects beyond screening, no further EA action is required. Should the FIs and CLD meet difficulties with WB categorization of projects it should consult the PIU environmental specialist.

8.3.2 Sub-projects Environmental Assessment

After the FI’s and CLD environmental screening of project proposal, for Category A projects, the sub-borrower should initiate a full EIA, and for the Category B projects – some Environmental Assessment (site specific EA and EMP and/or prepare a simple EMP and/or a EMP checklist) in order to identify, evaluate and prevent potential environmental impacts and identify mitigation measures that may be incorporated into the project design. The purpose of the mitigation measures plan is to predict potential effects and improve the environmental aspects of projects by minimizing, mitigating or compensating for negative effects. The EIA should be conducted for the entire enterprise regardless of loan’s size or any other specific features of a loan. Terms of Reference for an Environmental Impact Assessment is attached as Annex A, Form 3 in Vol. II. The project’s applicant is responsible for conducting this study.

8.3.3 Impacts Prevention/ Mitigation

Based on the existing WB and national EIA rules and procedures, all potential impacts from planned economic activities have to be identified and the set of mitigation measures has to be outlined. Furthermore, since preventive measures are favored over mitigatory or compensatory
measures, the Project will provide capacity building to all involved parties and especially to the PIU, CLD and PFIs, to avoid or minimize potential environmental impacts through applying a set of good practices directed to sub-borrowing enterprise through providing guidance on environmental sustainability matters when advising on agricultural production, agro-processing and industrial activities. The project will also support environmentally sustainable industry and agriculture technologies, including organic farming, and provide stakeholders by education on environmentally sound practices.

In relation to sectors to be covered by sub-project activities, the generated negative environmental impacts and environmental issues might be such as: surface and underground water pollution, including by hazardous chemicals; soil and water pollution due to wastes generation and improper disposal; as well as use and storage of hazardous materials; air pollution due to emission; soil and land degradation; loss of biodiversity and habitats; water and energy consumption; noise, odor and others; which may affect various environmental components. Description of potential impacts which may arise from sub-projects from agricultural production, agro-processing and manufacturing sectors as well as typical measures to be taken to prevent and mitigate impacts are presented in the Annexes C (Agricultural Production & Aquaculture), D (Agro-processing & Food Production) and E (Manufacturing & Construction) of vol. II of to the Environmental Management Framework.

The full set of preventive and mitigatory measures for activities in Agricultural & Agro-processing and Manufacturing sectors were developed by the World Bank Group in 2007 in its Environmental, Health, and Safety Guidelines, as well as outlined in the Best Available Techniques to the EU Integrated Pollution Prevention Control Directive, documents which could be consulted while conducting the EIA studies and preparing the Environmental Management Plans.

8.3.4 Steps to be followed while performing sub-projects EIA

The steps to be followed while performing category A and B sub-projects EIA, along with the responsibilities of the various concerned institutions are presented in Table 14 below.

---

3 See: http://www.ifc.org/ifcext/sustainability.nsf/Content/EnvironmentalGuidelines
### Table 14. Steps to be followed while performing the sub-projects EIA

<table>
<thead>
<tr>
<th>Step 1</th>
<th><strong>Category A projects</strong></th>
<th><strong>Category B projects</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>a) The potential sub-borrower and the PFIs officers prepare an initial sub-project concept and submits it to CLD.</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Notes:</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>i) The sub-borrower is responsible for obtaining appropriate permits and approvals that may be required for the particular type of activity to be financed, and are issued by the local authorities responsible for environmental issues. It should be noted also that a construction permit would be required in case of new construction or substantial reconstruction;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ii) At this time the sub-borrower may initiate preliminary discussions, if needed, with the respective environmental authorities to determine requirements for environmental review</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Same as for category A</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 2</th>
<th><strong>Category A projects</strong></th>
<th><strong>Category B projects</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>a) If the project receives preliminary endorsement of CLD, the sub-borrower completes <strong>Part 1</strong> of the Environmental Screening Checklist (Annex A/Form 1);</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b) CLD, based on the Environmental Checklist, after consulting the environment specialist, when necessary, determines the environmental category, and makes a conclusion that a full EIA should be done and informs sub-borrower.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 3</th>
<th><strong>Category A projects</strong></th>
<th><strong>Category B projects</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>a) CLD in consultation with environmental specialist, when necessary, completes <strong>Part 2</strong> of the Environmental Screening Checklist (Annex A/Form 1);</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b) CLD organizes a field site visit and completes the Field Site Visit Checklist (Annex A/Form 2);</td>
<td></td>
</tr>
<tr>
<td></td>
<td>c) after a field site visit, CLD completes a Final Environmental Assessment Checklist provided in Annex A/Part 1/Form 3</td>
<td></td>
</tr>
</tbody>
</table>

a) If the project receives preliminary endorsement of CLD, the sub-borrower completes **Part 1** of the Environmental Screening Checklist (Annex A/Form 1); |

b) CLD, based on the Environmental Checklist, after consulting the environment specialist, when necessary, determines the environmental category, and makes a conclusion what kind of EIA is to be conducted – an EIA and an EMP and/or partial EIA, or an EMP Checklist, including or not an environmental site assessment and informs sub-borrower |
| Step 4 | a) If the applicant wishes to follow further, she/he arranges preparation of a full Environmental Impact Assessment and of an Environmental Management Plan.  
b) For that CLD provides the sub-borrower with Terms of Reference for preparation of Environmental Impact Assessment (Annex A/ Form 3)  
c) The sub-borrower organizes 1st public consultation on the scope and objectives of the EIA study and complies formal Minutes where input from public in relation to planned activity is reflected.  
d) At sub-borrower’s request, an authorized institution prepares the documentation on Environmental Impact Assessment and Environment Management Plan  
e) Once EIA is ready, the sub-borrower submit it to the appropriate national environmental authority for its reviewing and preparing Statement on EIA |

### Notes:  
i) The documentation on EIA is further a subject of the State Ecological Expertise

ii) Content and Description of the Environmental Management Plan are presented in Annex B/ Form 1/ Parts 1 & 2, respectively; Environmental Management Plan Format is presented in Annex B/ Form 2

iii) Measures to mitigate impacts which may be generated by sub-projects from Agricultural Production, Agro-processing and Manufacturing sectors are provided in Annexes C, D, and E, respectively.

|  | a) If the applicant wishes to follow further, she/he arranges preparation of Environmental Assessment of a required level and an Environment Management Plan.  
b) For that CLD provides the sub-borrower the Terms of Reference for preparation of Environmental Impact Assessment (Annex A/ Form 3)  
c) At sub-borrower’s request, an authorized institution prepares the Environmental Assessment/ Environmental Analysis and Environment Management Plan |

### Notes:  
i) Category B projects which are listed in the Instruction on the Order of Organization and Conducting of the State Ecological Expertise, which presume new construction, substantial technological modernization, application of new technologies, change of land use patterns “some Environmental Assessment” is a subject of the State Ecological Expertise  
ii) In the case of small scale construction and reconstruction activities it is recommended to apply a generic Environmental Management Checklist, proposed by the WB to address potential environmental impacts; this document is provided in Annex A/ Form 4

iii) Content and Description of the Environmental Management Plan are presented in Annex B/ Form 1/ Parts 1 & 2, respectively; Environmental Management Plan Format is presented in Annex B/ Form 2;  
iv) Measures to mitigate impacts which may be generated by
### Step 5

| a) The sub-borrower prepares and submits to CLD prepared Environmental Impact Assessment and the EMP together with other documents needed for environmental approval as well as other relevant documentation upon CLD’s request, when needed; |
| b) The CLD reviews the submitted documentation and completes **Part 3** of the Environmental Screening Checklist **(Annex A/ Form 1)** |

**Notes:**

i) CLD may suggest some revisions and/or clarification (which the applicant has to provide upon CDL’s request), the environmental management plan and accompanied all necessary permits (the applicant is responsible for obtaining appropriate permits, clearances and approvals which may be required by other local authorities).

ii) CLD may return the EIA documents in case they didn’t correspond to specified requirements

### Step 6

| a) when the EIA is conducted and Statement on EIA is ready, the sub-borrower organizes its disclosure and organizes 2nd public consultation with stakeholders (e.g., NGO’s, community representatives, affected groups, etc.). Formal Minutes records the participants as well as issues raised toward EIA, and recommended activities to further address stakeholders’ concerns. |

**Note:**

In the case of small scale projects which require only an EMP Checklist the sub borrower organize its disclosure without special public consultation.

### Step 7

| a) After the consultation the sub-borrower incorporates the received recommendations as well as those received during the sub-projects from Agricultural Production, Agro-processing and Manufacturing sectors are provided in **Annexes C, D, and E**, respectively |

| a) The sub-borrower prepares and submits to CLD prepared Environmental Assessment and the EMP and/or EMP Checklist together with other documents needed for environmental approval as well as other relevant documentation upon CLD’s request, when needed; |
| b) The CLD reviews the submitted documentation and completes **Part 3** of the Environmental Screening Checklist **(Annex A/ Form 1)** |

**Notes:**

i) CLD may suggest some revisions and/or clarification (which the applicant has to provide upon CDL’s request), the environmental management plan and accompanied all necessary permits (the applicant is responsible for obtaining appropriate permits, clearances and approvals which may be required by other local authorities).

ii) CLD may return the EIA documents in case they didn’t correspond to specified requirements

| a) when the EIA is conducted and Statement on EIA is ready, the sub-borrower organizes its disclosure and public consultation, involving NGO’s, community representatives, affected groups, etc. and records input from the public Formal Minutes records the participants as well as issues raised toward EIA, and recommended activities to further address stakeholders’ concerns. |

**Note:**

In the case of small scale projects which require only an EMP Checklist the sub borrower organize its disclosure without special public consultation.
| Step 8 | a) Sub-borrower submits full set of environmental assessment documents to CLD for their consideration and further decision on funding.  
  b) CLD shall inform the sub-borrower in writing regarding approval or rejection of loan. | review and clearance by other public authorities into the sub-project technical design documentation (and environmental management plan) and submit it for conducting of the State Ecological Expertise | review and clearance by other public authorities into the sub-project technical design documentation (and environmental management plan) and submit it for conducting of the State Ecological Expertise  

**Note:**  
The projects which require only an EMP Checklists are not needed to be presented to the SEE  
b) When required, sub-borrower gets also from the State Ecological Inspectorate the final permit on use of the natural resources which is issued on the base of permits obtained from core institutions responsible for management of these resources (“Apele Moldovei”, State Geological Agency, etc.), and permit on environmental pollution on the basis of newly established by SEI for this particular activity (e.g., expansion of industrial facilities, etc.) maximum allowable emissions into environment (i.e., limits of pollutants’ concentration in waste water effluents and in emissions into air)  

| Step 8 | a) Sub-borrower submits full set of environmental assessment documents to CLD for their consideration and further decision on funding.  
  b) CLD shall inform the sub-borrower in writing regarding approval or rejection of loan. | review and clearance by other public authorities into the sub-project technical design documentation (and environmental management plan) and submit it for conducting of the State Ecological Expertise | review and clearance by other public authorities into the sub-project technical design documentation (and environmental management plan) and submit it for conducting of the State Ecological Expertise  

**Note:**  
The projects which require only an EMP Checklists are not needed to be presented to the SEE  
b) When required, sub-borrower gets also from the State Ecological Inspectorate the final permit on use of the natural resources which is issued on the base of permits obtained from core institutions responsible for management of these resources (“Apele Moldovei”, State Geological Agency, etc.), and permit on environmental pollution on the basis of newly established by SEI for this particular activity (e.g., expansion of industrial facilities, etc.) maximum allowable emissions into environment (i.e., limits of pollutants’ concentration in waste water effluents and in emissions into air)  

| Step 8 | a) Sub-borrower submits full set of environmental assessment documents to CLD for their consideration and further decision on funding.  
  b) CLD shall inform the sub-borrower in writing regarding approval or rejection of loan. | review and clearance by other public authorities into the sub-project technical design documentation (and environmental management plan) and submit it for conducting of the State Ecological Expertise | review and clearance by other public authorities into the sub-project technical design documentation (and environmental management plan) and submit it for conducting of the State Ecological Expertise  

**Note:**  
The projects which require only an EMP Checklists are not needed to be presented to the SEE  
b) When required, sub-borrower gets also from the State Ecological Inspectorate the final permit on use of the natural resources which is issued on the base of permits obtained from core institutions responsible for management of these resources (“Apele Moldovei”, State Geological Agency, etc.), and permit on environmental pollution on the basis of newly established by SEI for this particular activity (e.g., expansion of industrial facilities, etc.) maximum allowable emissions into environment (i.e., limits of pollutants’ concentration in waste water effluents and in emissions into air)  

| Step 8 | a) Sub-borrower submits full set of environmental assessment documents to CLD for their consideration and further decision on funding.  
  b) CLD shall inform the sub-borrower in writing regarding approval or rejection of loan. | review and clearance by other public authorities into the sub-project technical design documentation (and environmental management plan) and submit it for conducting of the State Ecological Expertise | review and clearance by other public authorities into the sub-project technical design documentation (and environmental management plan) and submit it for conducting of the State Ecological Expertise  

**Note:**  
The projects which require only an EMP Checklists are not needed to be presented to the SEE  
b) When required, sub-borrower gets also from the State Ecological Inspectorate the final permit on use of the natural resources which is issued on the base of permits obtained from core institutions responsible for management of these resources (“Apele Moldovei”, State Geological Agency, etc.), and permit on environmental pollution on the basis of newly established by SEI for this particular activity (e.g., expansion of industrial facilities, etc.) maximum allowable emissions into environment (i.e., limits of pollutants’ concentration in waste water effluents and in emissions into air)  

| Step 8 | a) Sub-borrower submits full set of environmental assessment documents to CLD for their consideration and further decision on funding.  
  b) CLD shall inform the sub-borrower in writing regarding approval or rejection of loan. | review and clearance by other public authorities into the sub-project technical design documentation (and environmental management plan) and submit it for conducting of the State Ecological Expertise | review and clearance by other public authorities into the sub-project technical design documentation (and environmental management plan) and submit it for conducting of the State Ecological Expertise  

**Note:**  
The projects which require only an EMP Checklists are not needed to be presented to the SEE  
b) When required, sub-borrower gets also from the State Ecological Inspectorate the final permit on use of the natural resources which is issued on the base of permits obtained from core institutions responsible for management of these resources (“Apele Moldovei”, State Geological Agency, etc.), and permit on environmental pollution on the basis of newly established by SEI for this particular activity (e.g., expansion of industrial facilities, etc.) maximum allowable emissions into environment (i.e., limits of pollutants’ concentration in waste water effluents and in emissions into air)  

| Step 8 | a) Sub-borrower submits full set of environmental assessment documents to CLD for their consideration and further decision on funding.  
  b) CLD shall inform the sub-borrower in writing regarding approval or rejection of loan. | review and clearance by other public authorities into the sub-project technical design documentation (and environmental management plan) and submit it for conducting of the State Ecological Expertise | review and clearance by other public authorities into the sub-project technical design documentation (and environmental management plan) and submit it for conducting of the State Ecological Expertise  

**Note:**  
The projects which require only an EMP Checklists are not needed to be presented to the SEE  
b) When required, sub-borrower gets also from the State Ecological Inspectorate the final permit on use of the natural resources which is issued on the base of permits obtained from core institutions responsible for management of these resources (“Apele Moldovei”, State Geological Agency, etc.), and permit on environmental pollution on the basis of newly established by SEI for this particular activity (e.g., expansion of industrial facilities, etc.) maximum allowable emissions into environment (i.e., limits of pollutants’ concentration in waste water effluents and in emissions into air)
8.4 Environmental Monitoring and Reporting

Environmental monitoring during the project implementation, which is to be performed by the PIU, has to provide information about key environmental aspects of the project, particularly the project environmental impacts and the effectiveness of taken mitigation measures. Such information enables to evaluate the success of mitigation as part of project supervision, and allows corrective action(s) to be implemented, when needed. The EMF identifies monitoring objectives and specifies the type of monitoring, and their link to impacts and mitigation measures. Specifically, the monitoring section of the EMP provides: (a) a specific description, and technical details, of monitoring measures, including the parameters to be measured, methods to be used, sampling locations, frequency of measurements, detection limits (where appropriate), and definition of thresholds that will signal the need for corrective actions; and, (b) monitoring and reporting procedures to: (i) ensure early detection of conditions that necessitate particular mitigation measures, and (ii) furnish information on the progress and results of mitigation.

If approved, during the sub-project’s operation phase, PIU along with the local (rayon) representative of the State Ecological Inspectorate and other environmental agencies, when required, perform environmental supervision and monitoring to control compliance with agreed design and mitigation measures to ensure that it is in full compliance with the management plan. (Monitoring Plan Format is presented in Annex B/ Form 3).

The status of compliance with agreed environmental mitigation measures is to be reported by the CLD in their regular (semiannually) reports on project implementation. In the case of non-compliance, the PFI officers (with Environmental Inspectorate and PIU assistance) investigate the nature and reason(s) for non-compliance, and a decision has to be made on what is needed to bring a sub-project into compliance, or whether financing should be suspended.

The PIU makes available information on PFI monitoring of environmental management plans and mitigation measures in its routine reporting on sub-project implementation to the World Bank and during periodic Bank supervision missions.

8.5 Sub-projects’ Environmental Assessment Disclosure and Consultation

Disclosure of the EA documents for category A and B projects is mandatory, and is to be done at a public place accessible to project-affected groups & local NGOs. This might be at the beneficiary web site/office, local authority offices and/or the central State Ecological Inspectorate or its rayonal sub-division. Furthermore, the sub-borrower provides a forum or hearing for consultation and comment by project-affected groups and local non-governmental organizations during the environmental assessment process and takes their views into account before finalizing project design and submission of the project to the PFI and to PIU for final approval. The sub-borrower provides any relevant materials (process descriptions, maps, building plans, etc.) to participants in a timely manner and in a form and language that are understandable to the group being consulted and records and describes details of consultations held in the project screening form. In case sub-projects fall under Category A, public consultation should be organized twice: 1st consultation are to held at the early stage, before finalizing ToRs for EA, and the 2nd one - when draft EA is ready. In the case of category B
subprojects the consultation can be done at the stage when the draft EIA report is ready (e.g., in a later stage as compared to Category A projects).

However, in case of new small construction, insignificant reconstruction, change of machinery and equipment on a new, more ecological one, purchase and application of small amount of fertilizers, purchase of a small quantity of cattle or poultry for production and processing and some others which will not significantly affect the environment, there will be no need for a special public hearing but the project proponent should provide information to all interested parties about these activities. In the case of construction/reconstruction activities the project beneficiaries should also install a notice plate placed in the site of project site.

9. Pest Management Issues

The pest management issues which can be potentially raised by the project may relate to possible indirect effect of stimulating greater use of agro-chemicals associated with more intensive cultivation and/or higher crop value.

The objective of EMF in this regard is to encourage adoption of Integrated Pest Management approach and increase beneficiaries’ awareness of pesticide-related hazards and good practices for safe pesticides use and handling.

9.1 Principles of the Integrated Pest Management

The primary aim of pest management is to manage pests and diseases that may negatively affect production of crops so that they remain at a level that is under an economically damaging threshold. Pesticides should be managed to reduce human exposure and health hazards, to avoid their migration into off-site land or water environments and to avoid ecological impacts such as destruction of beneficial species and the development of pesticide resistance. One important strategy is to promote and facilitate the use of Integrated Pest Management (IPM) through preparation and implementation of an Integrated Pest Management Plan (PMP). Integrated pest management (IPM) consists of the judicious use of both chemical and nonchemical control techniques to achieve effective and economically efficient pest management with minimal environmental contamination. IPM therefore may include the use of: a) Mechanical and Physical Control; b) Cultural Control; c) Biological Control, and d) rational Chemical Control.

Integrated Pest Management (IPM) is the use of multiple techniques to prevent or suppress pests in a given situation. Although IPM emphasizes the use of nonchemical strategies, chemical control may be an option used in conjunction with other methods. Integrated pest management strategies depend on surveillance to establish the need for control and to monitor the effectiveness of management efforts. World Bank Group in the Environmental, Health, and Safety Guidelines prepared in 2007 provides the following stages should be considered when designing and implementing an Integrated Pest Management Strategy, giving preference to alternative pest management strategies, with the use of synthetic chemical pesticides as a last option. As a first essential step, those who make pest management decisions should be provided

---

5 This section is based on the World Bank Group in the Environmental, Health, and Safety Guidelines prepared in 2007.
with training in identification of pests and beneficial (e.g. natural enemy) species, identification of weeds, and field scouting methods to evaluate which pests are present and whether they have reached an economic control threshold (the density at which they begin to cause economically significant losses).

9.2 Alternatives to Pesticide Application

Where feasible, the following alternatives to pesticides should be considered:

- Rotate crops to reduce the presence of pests and weeds in the soil ecosystem;
- Use pest-resistant crop varieties;
- Use mechanical weed control and/or thermal weeding;
- Support and use beneficial organisms, such as insects, birds, mites, and microbial agents, to perform biological control of pests;
- Protect natural enemies of pests by providing a favorable habitat, such as bushes for nesting sites and other original vegetation that can house pest predators and by avoiding the use of broad-spectrum pesticides;
- Use animals to graze areas and manage plant coverage;
- Use mechanical controls such as manual removal, traps, barriers, light, and sound to kill, relocate, or repel pests.

9.3 Pesticide Application

If pesticide application is warranted, users are recommended take the following actions:

- Train personnel to apply pesticides and ensure that personnel have received applicable certifications or equivalent training where such certifications are not required;
- Review and follow the manufacturer’s directions on maximum recommended dosage or treatment as well as published reports on using the reduced rate of pesticide application without loss of effect, and apply the minimum effective dose;
- Avoid routine “calendar-based” application, and apply pesticides only when needed and useful based on criteria such as field observations, weather data (e.g. appropriate temperature, low wind, etc.),
- Avoid the use of highly hazardous pesticides, particularly by uncertified, untrained or inadequately equipped users. This includes:
- Pesticides that fall under the World Health Organization Recommended Classification of Pesticides by Hazard Classes 1a and 1b should be avoided in almost all cases, to be used only when no practical alternatives are available and where the handling and use of the products will be done in accordance with national laws by certified personnel in conjunction with health and environmental exposure monitoring;
- Pesticides that fall under the World Health Organization Recommended Classification of Pesticides by Hazard Class II should be avoided if the project host country lacks restrictions on distribution and use of these chemicals, or if they are likely to be accessible to personnel without proper training, equipment, and facilities to handle, store, apply, and dispose of these products properly;
- Avoid the use of pesticides listed in Annexes A and B of the Stockholm Convention, except under the conditions noted in the convention and those subject to international bans or phaseouts;
• Use only pesticides that are manufactured under license and registered and approved by the appropriate authority and in accordance with the Food and Agriculture Organization’s (FAO’s) International Code of Conduct on the Distribution and Use of Pesticides;
• Use only pesticides that are labeled in accordance with international standards and norms, such as the FAO’s Revised Guidelines for Good Labeling Practice for Pesticides;
• Select application technologies and practices designed to reduce unintentional drift or runoff only as indicated in an IPM program, and under controlled conditions;
• Maintain and calibrate pesticide application equipment in accordance with manufacturer’s recommendations. Use application equipment that is registered in the country of use;
• Establish untreated buffer zones or strips along water sources, rivers, streams, ponds, lakes, and ditches to help protect water resources;
• Avoid use of pesticides that have been linked to localized environmental problems and threats.

9.4 Pesticide Handling and Storage

Contamination of soils, groundwater, or surface water resources, due to accidental spills during transfer, mixing, and storage of pesticides should be prevented by following the hazardous materials storage and handling recommendations. These are the following:
• Store pesticides in their original packaging, in a dedicated, dry, cool, frost-free, and well aerated location that can be locked and properly identified with signs, with access limited to authorized people. No human or animal food may be stored in this location. The store room should also be designed with spill containment measures and sited in consideration of potential for contamination of soil and water resources;
• Mixing and transfer of pesticides should be undertaken by trained personnel in ventilated and well lit areas, using containers designed and dedicated for this purpose.
• Containers should not be used for any other purpose (e.g. drinking water). Contaminated containers should be handled as hazardous waste, and should be disposed in specially designated for hazardous wastes sites. Ideally, disposal of containers contaminated with pesticides should be done in a manner consistent with FAO guidelines and with manufacturer's directions;
• Purchase and store no more pesticide than needed and rotate stock using a “first-in, first-out” principle so that pesticides do not become obsolete. Additionally, the use of obsolete pesticides should be avoided under all circumstances; A management plan that includes measures for the containment, storage and ultimate destruction of all obsolete stocks should be prepared in accordance to guidelines by FAO and consistent with country commitments under the Stockholm, Rotterdam and Basel Conventions.
• Collect rinse water from equipment cleaning for reuse (such as for the dilution of identical pesticides to concentrations used for application);
• Ensure that protective clothing worn during pesticide application is either cleaned or disposed of in an environmentally responsible manner
• Maintain records of pesticide use and effectiveness
9.5 Pest Management Plan

The content of the Pest Management Plan should apply to all the activities and individuals working. It should be emphasized also that non-chemical control efforts will be used to the maximum extent possible before pesticides are used.

The Pest Management Plan should be a framework through which pest management is defined and accomplished. The Plan should identify elements of the program to include health and environmental safety, pest identification, and pest management, as well as pesticide storage, transportation, use and disposal. Management Plan is to be used as a tool to reduce reliance on pesticides, to enhance environmental protection, and to maximize the use of integrated pest management techniques.

The Pest Management Plan shall contain pest management requirements, outlines the resources necessary for surveillance and control, and describes the administrative, safety and environmental requirements. The Plan should provide guidance for operating and maintaining an effective pest management program/activities. Pests considered in the Plan may be weeds and other unwanted vegetation, crawling insects and other vertebrate pests. Without control, these pests provoke plants’ deceases. Adherence to the Plan will ensure effective, economical and environmentally acceptable pest management and will maintain compliance with pertinent laws and regulations. The recommended structure of a Pest Management Plan is presented in the Annex F.

10. Institutional Arrangements for the EMF implementation

10.1 General Remarks

The project involves in its implementation a series of institution: Project Steering Committee; Ministry of Finance (MoF) and Ministry of Economics and Trade (MoET); Credit Line Directorate under the MoF; Financial Intermediaries, represented by several Commercial Banks; and the Project Implementation Unit. Their good cooperation is crucial for the success of the project. MoF is the Borrower/Recipient and delegated overall project coordination and management to MoET. For the day to day project implementation the MoET has established a Project Implementation Unit (PIU) which is also responsible for monitoring and evaluation. The Project Steering Committee, consisting of high level representatives from the key ministries and other stakeholders, is responsible for reviewing the progress under the project activities.

10.2 Credit Line Directorate (CDL)

CLD is the body consisting of representatives of the Ministry of Economy, Ministry of Finance and other relevant institutions, which is responsible for overall management of credits. The CDL is involved in the process of project implementation from the very beginning, at the project’s appraisal stage. It evaluates project proposals to attribute them to the WB Category and determines type of Environmental Assessment to be conducted for project, reviews the set of documents prepared by sub-borrowers (sub-projects’ Information Sheet or Project Summary Sheet as well as all necessary permits and clearances needed for project implementation) completes Environmental Screening Checklist and makes a final decision on project’s financing.
In case of non-compliance with presumed mitigatory measures during project implementation, the CLD can make a decision on suspending of funding.

10.4 Commercial Banks

The main function of commercial banks, which have been selected as PFIs in the project is administration of loans’ processing. The banks will not have specially assigned people dealing with projects’ environmental assessment and management because these institutions do not have relevant knowledge, or the official responsibility for environmental management and protection. All PFIs will mainly rely on the decisions of the CLD concerning the project category and on approvals, permits and certificates issued by the State Environmental Inspectorate under the Ministry of Ecology and Natural Resources as documents confirming that projects proposed for lending are environmentally sound and has in place all necessary EIA documentation. At the same time, as the PFIs will be responsible for assisting the sub borrowers in preparing the environmental screening form and respectively in identifying potential sub projects environmental issues, the EMF recommends that each participating PFI would designate a staff which would be trained on environmental issues to designated further environmental assessment responsibility.

10.4 Project Implementation Unit (PIU)

The PIU monitors the CLD compliance with the Development credit Agreement for the Project with regard to the environmental review process, including periodic monitoring of the CLD's screening process of applications for EA requirements. The PIU aims also to assist the beneficiaries in all aspects and is responsible for reporting to both the Government and the World Bank.

The PIU staff will include an environmental officer who will review and verify applications for loan, and if approved, will monitor the activity to ensure its full compliance with the EMF. The role of the PIU environmental specialist will be two-fold: i) to provide assistance to each of the loan officers and to CLD to determine the exact impacts that can be generated by proposed activities for which loans are being sought as well as prescribing in specific terms the required mitigative actions to be taken; and, ii) to monitor and report on a regular basis the effects on the environment that activities financed through PIU may provoke and to ensure that mitigation is carried out.

Environmental Specialist to be appointed by PIU would work under the supervision of PIU Executive Director as well as in close collaboration with relevant MENR staff and other stakeholders including concerned NGOs. The specialist would provide guidance and backstopping to the CLD on projects’ environmental screening procedures, and along with loan officers (to whom he/she would provide advice), will be responsible for ensuring an efficient screening of proposed sub-projects. The objective of the Environmental Specialist’s task would be also raising awareness on environmental issues and strengthen capacity of project stakeholders toward ensuring that potential environmental impacts could be recognized, avoided or at least minimized through mitigation. In this regard among the tasks to be performed by Environmental Specialist would be: design the environmental training programs on national environmental legislation, World Bank Safeguard Policies, Environmental Impact Assessment,
etc; prepare a reference manual for the lending staff of the PFI, which would include the list of national environmental legislation, list of economic activities requiring permits, compliance procedures and/or compliance inspections; deliver the training through a series of seminars to the target audience; conduct environmental monitoring and assessment. Besides, appointed Environmental Specialist would ensure that applicable national standards and guidelines are being followed and achieved. Where multiple sub-projects are being carried out in geographical proximity, the specialist would assess the possible cumulative or residual effects on the environment (particularly, on natural habitats, forests, soil, and air and water resources).

Environmental Specialist has to meet the following qualification criteria: appropriate education in environmental sciences and some engineering skill; relevant knowledge of the current environmental situation in Moldova; high familiarity with environmental and other relevant to the fields policies and legislation; at least 5 years experience in the area of environmental management; knowledge of World Bank Safeguard Policies and EIA rules and procedures; experience with similar assignment would be an advantage; outstanding communicational, presentational and organizational abilities.

11. Training and Capacity Building

11.1 Training

Based on the conducted analysis it was concluded in order to ensure successful implementation of the EMF requirements it is necessary to provide a series of capacity building activities. In particular, it is proposed the PIU environmental specialist should have training course on environmental monitoring techniques and procedures. This course could be more generalized and extended to include monitoring procedure for monitoring of other aspects of the project.

The PIU, CLD and PFI’s staff will require training on environmental management. A workshop 2 days duration would be designed and might involve about 15 participants. In the design of the training program, the Environmental Specialist has to take into account the following: (i) the training program should be practical and include work with realistic case studies, based on actual loan proposals and types of business activities supported by the Project; (ii) the training program should cover an explanation and practical application of the environmental standards and forms designed for use by the participating financial institutions.

A number of commercial banks will be given the responsibility for reviewing loan applications for agricultural, agro-processing and industrial development under the close monitoring of the PIU. The loan officers of these institutions will need to be familiar with environmental aspects of development projects and basics of environmental analysis. The basics of environmental analysis would include elements of environmental impact assessment procedures is to be focused: (i) on national and World Bank requirements for environmental assessment, mitigation, monitoring and reporting; (ii) screening and scoping procedures including checklists; (iii) the generic procedures for environmental assessment required by the World Bank and national authorities; (iv) content of management plan; (v) monitoring and reporting requirements of the World Bank for sub-project supervision. Field studies also may be included. Such training will enable these target groups to recognize and assess potential negative environmental impacts and set of measures to mitigate them.
Next the most critical group to be exposed to the importance of the environment concerns includes entrepreneurs from agricultural, agro-processing and manufacturing sectors who will be receiving the loan, and whom should be provided advices on use better available techniques to prevent/ mitigate impact and promote sustainable agriculture and clean industrial technologies. It may be included in the mandate of the environmental specialist that he/ she would clearly point out the environmental consequences of various agricultural, agro-processing and manufacturing related activities. The workshops for this group would include environmental awareness and a practical exercise to observe and learn about sustainable agricultural practices and best available techniques in industry. Presumably, at least 2 workshops for 2 days are required with about 15 persons attending each workshop.

As a capacity building may be considered also the preparation of a user friendly Environmental Guidelines to be used main stakeholders. These Guidelines would have a dual purpose: i) would indicate how to identify sub projects that may fall into one of the Bank’s A or B environmental categories, and in which case will require a full and/or a partial EIA, and, ii) it would provide assistance for PIU, CLD and loan officers to identify activities that may affect the environment and in organizing the subprojects EIAs.

12. EMF Monitoring

A permanent and regular monitoring by the Bank and PIU is required to ensure that mitigation measures are being implemented, to determine whether there are no additional environmental impacts, which were not identified or overlooked in the project’s environmental assessment/ analysis. Monitoring of the environmental impacts within the implementation of the whole CEP can be performed through the country- or district-wide evaluation of impacts from the individual groups of subprojects (CEP sub-categories) that will be funded under the Project. In order to monitor the overall CEP EMF implementation (through the monitoring and evaluation of financed subprojects), there were proposed a set of environmental indicators. These indicators include: number of category A and B subprojects; overall impact of the supported subprojects; number of complains/ number of sentences/ number of ecological charges applied for the supported subprojects; number of trainings and participated in capacity building activities. Based on these indicators the PIU semiannually would prepare short progress reports with regard to EMF implementation. Furthermore, the PIU will ensure annual publishing these reports on the project website as well as dissemination on environmental issues related to the CEP to all interested stakeholders and parties (e.g. NGOs, general public etc.).

13. Budget

At the project design stage, the amount of funds to be spent for preparing sub projects Environmental Impact Assessments, obtaining of necessary permits and other relevant activities are the responsibilities of sub-borrowers. They will depend on the nature of project proposal, its complexity, scale, etc. At the construction and operation stages, the funds to be spent for installations and other activities to ensure mitigatory measures against the environmental impacts from sectoral activities is also the responsibility of sub-borrowers. These funds will depend on particular techniques and technologies used for implementing mitigation measures as well as on their scale, number, variety and other factors. At the same time, in order to ensure successful EMF implementation, a series of capacity building activities are necessary for which the project
has to provide adequate funding. Estimate budget for proposed capacity building activities and trainings is presented in the Table 15 below.
Table 15. Estimate budget for trainings

<table>
<thead>
<tr>
<th>Training Required and Target Group</th>
<th>Purpose</th>
<th>No of participants/ No of days for the workshop/ No of workshops</th>
<th>Funds to be spent as per budget lines</th>
<th>Total funds</th>
</tr>
</thead>
</table>
| 1. Environmental awareness workshop for PIU staff, CLD and loan officers                          | To ensure that PIU staff, CLD and loan officers aware about importance of the environment and know how to recognize the impacts that various funded activities may have on the environment. | 15/ 2/ 1                                                      | 1). Rent a room: $230 x 2 days = $460  
2). Trainees fee: $200 x 2 days x 2 trainees = $800  
3). Consumables/ handouts: $12 x 15 pers. = $180  
4). Rent of equipment: $70 x 2 days = $140  
5). Coffee-breaks: $2 x 18 pers. x 4 breaks = $144  
6. Lunches: $25 x 18 pers. x 2 lunches = $900 | $2624        |
| 2. PIU environment specialist                                                                       | To provide PIU environmental consultant with knowledge on the screening of the projects, EIA process and EIA review                                                                                   | 1/ 2/ 1                                                       | 1). Trainee fee: $200 x 2 days = $400  
2). Consumables/ handouts: $12 x 1 pers. = $12  
3). Coffee-breaks: $2 x 2 pers. x 4 breaks = $16  
4). Lunches: $25 x 2 pers. x 2 lunches = $100 | $528        |
| 3. PIU environmental specialist and CLD                                                              | To provide PIU staff/ or PIU environmental consultant with knowledge on environmental monitoring techniques and procedures                                                                           | 1/ 4/ 1                                                      | 1). Trainee fee: $200 x 1 day = $200  
2). Consumables/ handouts:$12 x 4 pers.                            | $518        |
<table>
<thead>
<tr>
<th>Event Description</th>
<th>Details</th>
<th>Date</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. CLD and Loan officers from commercial banks</td>
<td>Familiarizing with environmental aspects of development projects and environmental analysis to enable them to recognize the potential negative environmental impacts and outline set of measures to mitigate impacts</td>
<td>10/2/2</td>
<td>$4,492</td>
</tr>
<tr>
<td></td>
<td>1). Rent a room: $230 x 2 days x 2 workshops = $920</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2). Trainees fee: $200 x 2 days x 2 trainees x 2 workshops = $1,600</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3). Consumables/handouts: $12 x 10 pers. x 2 workshops = $240</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4). Rent of equipment: $70 x 2 days x 2 workshops = $280</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5). Coffee-breaks: $2 x 12 pers. x 4 breaks x 2 workshops = $192</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6). Lunches: $25 x 12 pers. x 2 lunches x 2 workshops = $1,200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Entrepreneurs/project beneficiaries</td>
<td>Environmental awareness and a practical exercise to observe and learn about sustainable agricultural practices and best available techniques and industry and agriculture</td>
<td>15/2/2</td>
<td>$5,248</td>
</tr>
<tr>
<td></td>
<td>1). Rent a room: $230 x 2 days x 2 workshops = $920</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2). Trainees fee: $200 x 2 days x 2 trainees x 2 workshops = $1,600</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3). Consumables/handouts: $12 x 15 pers. x 2 workshops = $360</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4). Rent of equipment: $70 x 2 days x 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------------------------------------------------</td>
<td>------------------------------------------------------------------</td>
<td>------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>5) Coffee-breaks: $2 x 18 pers. x 4 breaks x 2 workshops = $288</td>
<td>6) Lunches: $25 x 12 pers. x 2 lunches x 2 workshops = $1800</td>
<td><strong>Sub-total for 7 trainings/ workshops</strong> $13410</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
14. Environmental Management Framework’s Disclosure and Consultation

Draft Environmental Management Framework (EMF) disclosure occurred on June 9 2000 by its posting on websites of the Ministry of Economy (www.mec.gov.md) and Regional Environmental Center (REC) Moldova (www.rec.md). REC has further forwarded electronically the EMF summary to all national and local environmental NGO’s, and PIU - to the Ministry of Ecology and Natural Resources, Ministry of Economy and Trade, and Ministry of Finance.

Consultation on draft EMF took place on June 17 2009 at premises of World Bank in Chisinau with participation of representatives of NGO’s (Ecological Movement of Moldova, REC Moldova), PIU, industrial enterprises and other target groups.

During the consultation, the Client has presented a summary of a draft Environmental Management Framework to public. Particularly, the audience was informed about screening of the projects, types of Environmental Assessment for Category A and B projects, potential impacts which may by generated by agricultural production, agro-processing and manufacturing sectoral activities as well as measures to be taken to prevent/ mitigate potential impacts. The consultation meeting’s attendees actively participated in discussions which were mainly focused on WB environmental screening procedure and capability of environmental authorities to perform monitoring of sub-projects.

After the meeting, on the basis of input from participants as well as electronically received comments from interested parties on summary of the draft EMP posted one week earlier on REC’s and other websites, there were made relevant corrections both in the main text of EMF and Annexes to EMF to fully meet stakeholders’ concern. The Report on Consultation on the Draft Environmental Management with interested parties is presented in Annex H.

Final version of the Environmental Management Framework approved by World Bank is to be posted on World Bank’s InfoShop for its disclosure as well as on websites of the Regional Environmental Center Moldova and the Ministry of Economy and Trade.