Environmental Management Framework (EMF) for the Integrated Forest Ecosystem Management Project, (IFEMP)
Kyrgyz Republic

Contents

Introduction

This Environmental Management Framework (EMF) describes procedures that will be in place during the implementation of Integrated Forest Ecosystem Management Project to meet requirements of the World Bank (WB) Safeguard Policy on Environmental Assessment OP/BP 4.01.

The purpose of this document is 1) to provide guidance to sub-borrowers (sub-project sponsors) to ensure the EA process is carried out in compliance with the national legislation and the World Bank Operational Procedure OP 4.01 Environmental Assessment; 2) to define an environmental screening process to allow for identification, assessment and mitigation of potential impacts by proposed works at the time the detailed aspects are known; 3) to serve as guideline for the development of sub-project/site-specific Environmental Management Plans (EMPs); 4) to outline consultations and disclosure requirements associated with the development of sub-projects; and 5) and training/ capacity-building arrangements needed to implement the EMF provisions.

The EMF presents an environmental management measures applicate to sub-projects. The EMF is accompanied by the Access Restriction Process Framework which covers the requirements of the OP 4.12.

Project Description

Background

The Kyrgyz Republic is one of the poorest countries in Central Asia, and is just beginning to recover from a period of economic shocks, ethnic conflict and political instability, as evidenced by a 10.5% rise in GDP in 2013. This recovery remains vulnerable, however, and rural households in remote mountainous areas have been among the most affected by the recent crises. Mountain areas coincide with high rates of poverty, and communities in these regions are at greatest risk from climate change, due to both extended periods of drought and increased intensity of rainfall resulting in increased soil erosion and land degradation.

Although forests cover less than 6% of the area of the Kyrgyz Republic, they play a vital economic, social and environmental role and are especially important for the livelihoods of rural communities. More than 2 million people live in or near forests and are reliant on them, not only for timber and fuel wood but also for pastures as well as non-timber forest products such as nuts, fruit, mushrooms, provision of potable water and medicinal plants. The forest cover of Kyrgyz Republic, as a result of over harvesting, by 1966 had been reduced to roughly half of its 1930s range. The state policy and the underpinning legislation then shifted from intensive harvesting towards one of forest protection. The forest area now extends to an area of just over 1.1 million hectares.

Economic opportunities in remote mountainous areas are concentrated on livestock herding, and subsistence farming, but also include harvesting of non-timber forest products, fruit production and some tourism based activities. Livestock numbers are increasing, which in turn has heightened demand for land for grazing and fodder production. This increasing demand is putting further pressure on the already limited forest cover and is leading to subsequent degradation as a result of grazing and fodder production inside forests in combination with unregulated removals of firewood and timber. The forests have potential to

provide additional —*but more importantly*—more sustainable benefits to the national economy and local communities and to help address local and global challenges brought on by poverty, land degradation and climate change. The inability of government to support existing forest policies such as the National Forest Program to Support the Implementation of the Concept of the Development of the Forest Sector of the Kyrgyz Republic (2005-2015) and the current management structure of the forestry sector result in inadequate oversight and inefficiency. This is due primarily to the centralized top down nature of the management, the lack of adequate information and investment in the sector, weak capacity, and perverse incentive structures which may lead to rent seeking behavior.

Objectives

The Integrated Forest Management Project will build upon the work and policy reform agenda that the government has initiated and which is currently being supported by a number of donors. The donor support however is in the most part limited to provision of technical assistance and has limited capacity for providing the necessary institutional capacity building and support and roll out of community based resource management in the wider landscape. Most importantly these reforms are being spearheaded by the State Agency for Environmental Protection and Forestry (SAEPF) themselves.

The project aims to support an ecosystem-based approach to the improved management of the area controlled by the forest enterprises - leskhozes including forested lands, pasture, and unproductive or marginal lands. This will be done through support for institutional reform and capacity building, the introduction of participatory management planning at the leskhoz level and support for the implementation of those plans in pilot areas. The current implementation of leskhoz management plans makes it difficult for communities to access these pastures and acts as an impediment to a coordinated land management strategy.

The project's objective is to strengthen the institutional capacity for sustainable forest ecosystem management in the country. The project proposes three main components to achieve this: 1) Forest Sector Institutional Reform; 2) Strategic Investments and Piloting of Sustainable Management Approaches; and 3) Information and Monitoring and Evaluation.

The main environmental concerns deal with the investments envisioned under Component II which will support the development of Integrated Management Plans. Possible indirect environmental and social impacts may result from Technical Assistance provided under the Project, particularly Component I on institutional reform. No environmental impacts are expected as a result of Component III.

Given the unknown nature of all the activities and subprojects which will be designed and implementedunder Component 2, this Environmental Management Framework (EMF) is developed todefine the procedures for environmental screening, assessment and management of the potential environmental impacts associated with the specific sub-projects under Component 2. The environmental assessment conducted will cover environmental and social risks for the project including potential tensions between forests and pasture communities, assessing different scenarios, opportunities and risks of community-based forest management, as well as gender-specific roles and impacts, if any, of proposed forest management measures. The EMF is accompanied by an Access Restriction Process Framework (ARPF).

Components

COMPONENT I Forest Sector Institutional Reform: priority activities include: capacity building for reform of the policy, legal and regulatory framework for forest sector reform based on the lessons learned through the implementation of the pilot activities at the national, local and community level; development of a framework to provide the enabling environment for more decentralized management and planning of natural resources at the national, Leskhoz, Rayon, and Ayil Okmotu administration levels; training and capacity building for public/private partnerships; establishment of coordination platforms and community mobilization; strengthening the capacity of SAEPF; and public awareness and communication campaign.

COMPONENT II Strategic Investments and Piloting of Sustainable Management Approaches: priority activities include support for the preparation and implementation of Leskhoz Integrated Management Plans, which will focus on activities including but not limited to: capital investments such as short rotation plantation establishment; improved silvopastoral systems and climate smart agriculture; investments to encourage natural forest regeneration and enrichment planting; irrigation systems for fruit production; silviculture measures including thinning and selective timber harvesting; the production of high quality seedlings, establishment of tree nurseries, and timber plantations; and technical assistance to and capacity building for local user groups and forestry staff in forest management techniques.

COMPONENT III Information and Monitoring and Evaluation: priority activities include: support for technical assistance and capacity building for the establishment, operation and maintenance of the Forest Management Information System (FMIS) which will feed into the Forest Management Planning process within the Forestry Departments. This technical assistance will be provided to users of the FMIS including the Forestry Departments, the leskhozes, local and regional governments, and local users and user associations. This activity will include support for the collection and development of baseline forest ecosystem information, maps, surveys; support for an update of the National Forest Inventory (NFI); the purchase of new satellite imagery to define the extent of forest and pasture resources under the management of Leskhozes; and support to the development of capacity within the Department of Forest and Hunting Inventory and Planning to continue the update of the NFI on an ongoing basis and post project.

The National Regulations and Legal Framework for Environmental Assessment Process

This section describes the national regulatory framework for the environmental assessment processes. Also, it contains the analysis of the current regulations and legislation, including rules for the environmental impact assessment, and a summary of World Bank environmental safeguard policies and requirements.

The Legal Framework for environmental protection in the Kyrgyz Republic

Over the past 10 years the Kyrgyz Republic has made important steps to reform its environmental policies, legislation and institutions. As part of the regulatory reform the framework environmental legislation and the laws on environmental components and other relevant acts have been drafted and updated. The legislation has laid down general principles and system for the environmental protection activities.

The basic legal acts of the Kyrgyz Republic in the area of environmental protection and rational use of the natural resources are:

Law of the Kyrgyz Republic "On Environmental Protection" defines the state policy and regulates legal relations in the area of nature management and environmental protection in the Kyrgyz Republic. Among other issues, this law regulates the relationship between public associations and various government structures, their rights and responsibilities. Also, the provisions of this law fix the right of every citizen or an organization to access the environmental information held by the public authorities. The general line of the Act is to provide a scientifically-substantiated balance of environmental and economic interests with the priority of protecting human health and natural human right to healthy and clean environment.

Law of the Kyrgyz Republic "On environmental impact assessment" regulates legal relations in the field of environmental impact assessment and is aimed at the implementation of the citizens' constitutional right to favorable environment by preventing negative environmental impacts resulting from the implementation of economic and other activities. The planned activities shall not be allowed without a positive conclusion of the state environmental impact assessment.

Law of the Kyrgyz Republic "General Technical Regulation to Ensure Environmental Safeguards in the Kyrgyz Republic" defines the basic provisions of the technical regulation in the field of environmental safeguards and establishes the general requirements to ensure the environmental safeguards in the process of design and implementation of economic and other activities in the facilities for manufacture, storage, transport and recycling of the produce.

Law of the Kyrgyz Republic "On Protection of Agricultural Land Fertility" regulates the relations in the field of soil protection, soil fertility, preservation of the land quality and protection of land against degradation and other negative phenomena caused by the possession, use and disposal of the agricultural land.

Law of the Kyrgyz Republic "On Agricultural Land Management" regulates legal relations in the field of agricultural land management to ensure the efficient and safe use of the land in the interests of the people of the Kyrgyz Republic.

Law of the Kyrgyz Republic "On pastures" regulates relations in the field of management, improvement and use of pastures, except for the state forest fund pastures. In accordance with this Law the pastures are in the exclusive possession of the Kyrgyz Republic. To observe the interests of livestock owners and other pasture users in a given territorial unit the local communities create associations of pasture users. The use of pastures for grazing is based on the pasture tickets and the pasture use agreements. The use of pasture resources for other purpose besides grazing, which include, but not limited to, hunting, beekeeping, collecting medicinal herbs, fruits and berries, hay and firewood, production of common mineral resources, tourism and recreation of citizens is governed by the Ruling of the Government of the Kyrgyz Republic as of September 13, 2013 № 515 "On the procedure to grant the right of use of pasture resources for other non-grazing purpose."

Law of the Kyrgyz Republic "On the mountain territories of the Kyrgyz Republic" regulates the creation of the social, economic and legal framework for the sustainable development of mountain territories of the Kyrgyz Republic, the conservation and sustainable use of natural resources and historical, cultural and architectural heritage. The law should be the basis for regulation of the human activities in the mountainous areas.

Law of the Kyrgyz Republic "On Specially-Protected Natural Areas" This law regulates the relations in the field of organization, management, protection and use of the nature, as well as monitoring the protected nature areas in order to maintain the reference/unique natural complexes and objects of cultural heritage, natural formations, gene pool of flora and fauna, study of natural processes in the biosphere and control over the changing condition.

Law of the Kyrgyz Republic "On Electric Power Industry". The purpose of the Act is to ensure reliable, secure and uninterrupted supply of electricity and heat and improve the quality of services provided to all consumers, create a competitive environment and form the energy market, and promote private sector development and attraction of investment.

Law of the Kyrgyz Republic "On Renewable Energy" sets out the legal, organizational, economic and financial basis and mechanisms to regulate the State relations with the producers, suppliers and consumers of the renewable energy, and the equipment for production and installation of the renewable energy sources.

Law of the Kyrgyz Republic "On the application of chemicals and plant protection" defines the general legal, economic, environmental, social and organizational principles for the use of chemicals and plant protection in the interest of protection of public health, animals, environment, prevention or elimination of the consequences of soil, plant and animal products pollution.

Law of the Kyrgyz Republic "On fisheries" regulates the legal, economic and organizational frameworks for the fishery sector of the Republic with the view of its comprehensive development, preservation and increase of fish stocks, increasing fish productivity in the water bodies and ponds for the complete satisfaction of the population's needs of fish products.

Law of the Kyrgyz Republic "On the animal world" regulates relations in the field of protection and reproduction of wildlife and is aimed at the rational use of wildlife.

Law of the Kyrgyz Republic "On protection of the plant world" regulates relations in the field of protection and reproduction of flora and is aimed at the rational use of flora.

Law of the Kyrgyz Republic "On Unions (associations) of the Water Users «defines the legal status and organizational framework for the creation and activity of the unions (associations) of water users as nonprofit organizations for operation and maintenance of the irrigational facilities in the rural areas in the public interest.

Law of the Kyrgyz Republic "On Water" regulates the relations in the sphere of use and protection of water resources (water), prevention of environmentally detrimental impacts of economic and other activities on the water bodies and water facilities and improvement of their conditions, and strengthening the rule of law in the field of water relations. In addition, this law regulates the quantity and quality of water discharged into the environment and prohibits the discharge of industrial, household and other waste and garbage in the water bodies in general.

Water Code of the Kyrgyz Republic regulates water relations in the sphere of use, protection and development of water resources to guarantee the adequate and safe supply of water to the population of the Kyrgyz Republic, environmental protection and sustainable development of water resources of the country.

Land Code of the Kyrgyz Republic establishes the legal basis for the rational use of land resources and regulates the land use and protection relations.

Forest Code of the Kyrgyz Republic establishes the legal basis for the rational use, protection and reproduction of forests, the development of their environmental and resource capacity, and their rational use. It contains the rules regulating the activities of organizations and individuals which impact the condition and reproduction of the forests. They are required to keep the state forest management bodies informed about the status of the conservation and

protection of forest plantations, as well as conduct technological, sanitary and other measures aimed at the conservation and protection of forests which are coordinated with local governments and local public administrations, state forestry management bodies and environmental protection bodies.

The Administrative Code of the Kyrgyz Republic, Chapter 16 (articles 158-184) regulates the responsibility for administrative offenses in the sphere of environmental protection and use of natural resources.

Chapters 14 and 15 regulate the responsibility for the administrative offenses, encroaching on the right of the state ownership of forests, flora and fauna.

The Criminal Code of the Kyrgyz Republic Chapter 26 (articles 265-279) regulates the liability for environmental crimes.

In extension of the laws "On Environmental Assessment", "On Environmental Protection", and the "General Technical Regulation on Environmental Safeguards in the Kyrgyz Republic" a number of regulations have been adopted which set out the requirements for the state environmental assessment and environmental impact assessment.

Regulation on the state environmental assessment in the Kyrgyz Republic approved by the Government Ruling as of May 7, 2014 N 248.

Guidelines for the legal, human rights, gender, environmental, and anti-corruption assessment of the draft regulations of the Kyrgyz Republic, approved by the Ruling of the Government of the Kyrgyz Republic as of December 8, 2010 № 319.

Regulations on the procedure of EIA in the Kyrgyz Republic, approved by Ruling of the Government of the Kyrgyz Republic as of February 13, 2015 № 60.

Regulatory framework in the field of environmental assessment, environmental licensing and environmental permit system in the Kyrgyz Republic

Environmental assessment* in KR incorporates the environmental impact assessment (hereinafter EIA) and environmental assessment.

The laws "On Environmental Protection" and "On Environmental Assessment" define the EIA as an act of identification, analysis, assessment and design consideration of possible impact of planned economic and other activities which may cause changes in the environment.

In accordance with the Law "General Technical Regulation on Environmental Safeguards in the Kyrgyz Republic" the environmental safeguards of economic and other entities is ensured by the EIA in the site of planned economic and other activity before the decision-making on the implementation of the indicated activities, taking into account environmental safeguards requirements established by this Technical Regulations.

In accordance with Article 10 of the Law "On Environmental Impact Assessment" EIA is organized and conducted at the stage of the preparation of feasibility studies for the following activities:

- Concepts, programs and plans for the sectoral and territorial socio-economic development;

-New construction, reconstruction, expansion and technical retooling in the operational economic and other facilities that have or might have an environment impact.

- Schemes of comprehensive use and protection of natural resources;

- Master plans of cities and settlements and other town-planning documentation;

EIA of the objects in the first three positions is a strategic environmental assessment (SEA).

The EIA procedure is ensured by the project initiator (customer).

The key laws governing the mandatory EIA in the Kyrgyz Republic:

- "On Environmental Protection";
- "On Environmental Impact Assessment";
- "General technical regulation on environmental safeguards of the Kyrgyz Republic";
- "General Technical Regulations "Safeguards of buildings and structures";
- "On Production and Consumption Waste";
- "On accession to the UNECE Convention on environmental impact assessment in the transboundary context."

The procedure for conducting EIA is governed by the Regulations on the procedure of EIA in the Kyrgyz Republic, approved by the Government of the Kyrgyz Republic on February 13, 2015 № 60.

Regulations and instructions and technical documents that have to be taken into account during the EIA:

- The Land-, Forest-, and Water Codes;
- the laws KR governing the protection and use of natural resources;
- State standards, specifications, building codes, and technical safeguards codes and other.

The participants of the EIA process are:

- The project initiator (customer);
- The executor of the EIA activities;
- Local state administrations and local authorities;
- Authorized public body in the field of environmental protection and / or its territorial bodies;
- Public (non-government organizations, communities and others.).

The main steps in the EIA process:

- Assessment of the current (background) environmental conditions in the territory within the boundaries of the potential area of possible impact of the proposed activities (air, surface and underground watercourses, land, flora and fauna, physical impacts). Also, at this stage the assessment is made of historical and cultural value of the area and its socio-economic status;
- Assessment of potential environmental impacts of the proposed activity;
- assessment of alternative options for achieving the project objectives: different location of the facility, technology and other alternatives, including the zero option (rejection of the proposed activity);
- Forecast and assessment of environmental change;
- Solutions to mitigate the impact;
- Monitoring program.

In the process of EIA the public should be informed about the project and public hearings held before the decision-making about the project implementation.

EIA materials are submitted for the state environmental expertise as a part of the project documentation.

The submission of the EIA as part of all types and stages of the project documentation development is mandatory and serves as a basis for the decision-making by the authorized public body on environmental screening.

The Law "On Environmental Assessment" defines the environmental assessment as "identification of the level of environmental risk and danger of the proposed solutions, the implementation of which will have either direct or indirect impact on the environment and natural resources."

Article 3 of the above Act defines the following targets for the environmental assessment:

draft regulations and draft regulatory-, technical-, instructional and methodological and other documents regulating economic and other activities;

materials available prior the design of the projects on development and placement of the productive forces on the territory of the Kyrgyz Republic, including:

- draft investment-, comprehensive- and targeted socio-economic, scientific-technical and other government programs related to the nature management;
- draft master plans for the territorial development, including free economic zones and territories with special regime of nature management;
- Projects of the sectoral development;
- draft comprehensive state schemes of nature protection and use of water, forest, land and other natural resources, including environmental rehabilitation projects and land reclamation areas;

feasibility studies and construction-, reconstruction-, expansion-, and modernization projects, projects on conservation, liquidation of projects, and other projects regardless of their estimated cost, departmental affiliation and forms of ownership, the implementation of which may have an impact on the environment;

feasibility studies and projects of economic activities in the neighboring countries, which require the use of natural objects (resources) shared by the countries involved;

draft of the international treaties, contracts and agreements related to environmental management;

technical documentation for the new equipment, technology, materials, substances, certifiable products and services, including purchased abroad;

materials of the comprehensive environmental survey of the sites or the territories, which justify the assignment to these territories the legal status of protected areas, environmental disaster zones or zones of environmental emergency, as well as rehabilitation programs for these areas;

materials which justify the issuance of licenses, permits and certificates for the operations that might impact the environment, including import, export and production of natural resources;

materials describing the environmental condition of the individual regions, places, and objects;

contracts and agreements related to the change of the form of ownership of enterprises, which have a negative impact on the environment;

other types of documentation justifying economic and other activities.

Objects of the state environmental assessment are subject to the repeated state environmental screening in the following cases:

- updating the object of the state environmental screening after the prescriptions made by the previous state environmental assessment;
- changes in the project and other documentation after the receipt of the positive conclusion of the state environmental assessment;
- Expiration of the positive conclusion of the state environmental assessment;
- availability of the court decision.

In KR the following assessments are conducted:

- State environmental assessment;
- Public environmental assessment.

The state environmental assessment is organized and conducted by the authorized state body in the field of environmental protection, in this case, the State Agency for Environmental Protection and Forestry under the Government of the Kyrgyz Republic (SAEPF).

The procedure for the state environmental assessment is regulated by the Regulations on the procedure of the state environmental assessment, approved by the Government of the Kyrgyz Republic on May 7, 2014 N 248.

SAEPF and its territorial bodies form an expert commission for the state environmental assessment of each specific object of the state environmental assessment.

The members of the expert commission are the experts from the structural unit of environmental expertise SAEPF (territorial body) and external experts, community representatives, and local government.

SAEPF is conducting the state environmental assessment of the project documentation, draft targets of maximum permissible emissions (hereinafter, MPE) and discharge (hereinafter, MPD), target for waste disposal and environmental certificates (passport) for the activities in the Hazard Category I, as well as objects that might cause a significant adverse transboundary impact, the draft plans, programs, concepts, regulations, and technical and methodical documents.

The territorial bodies of SAEPF are responsible for the state environmental assessment of the project documentation, draft targets for MPE and MPD, targets for waste disposal and environmental certificates for activities related to the Hazard Categories II and III.

The outcomes of the state environmental assessment are presented in the form of a report.

The report of the state environmental assessment can have both positive and negative conclusions.

The positive conclusion of the state environmental assessment includes justified conclusion about the admissibility of the proposed activity's environmental impact and possibility of realization of the assessed object.

The negative opinion of the state environmental screening may contain two types of the conclusions:

- The need to finalize the documentation presented in view of the comments and proposals contained in the report;
- The inadmissibility of the realization of the object of screening in view of the failure to enforce the requirements of the environmental safeguards of the planned activity.

The report is signed by the Chair and all the members of the expert committee and approved by the head of the authorized body for environmental protection (territorial body) or the deputy.

The positive conclusion of the state environmental assessment is a prerequisite for funding, crediting, investing, and implementation of the object of screening.

The report of the state environmental assessment regarding the draft legislation is prepared in accordance with the Regulations on the procedure of legal, human rights, gender, environmental, anti-corruption expertise of the draft regulations KR approved by the Government KR on December 8, 2010 № 319.

The timeframe for the state environmental assessment is determined depending on the complexity of the object of screening and should not exceed three months. When examining the EIA documentation of the objects which might cause significant adverse transboundary impact, it is allowed to extend the period of screening, when necessary. The decision on the extension shall be justified and agreed by the parties concerned.

The state environmental assessment starts after all the necessary documentation has been submitted and had prior screening, and the period shall not exceed two weeks.

Public environmental assessment is organized and conducted at the initiative of the citizens, local authorities and public organizations (associations) registered in accordance

with the legislation of the Kyrgyz Republic. Conclusion of the public environmental impact assessment is a recommendation.

In accordance with Article 18 of the Law "General technical regulation on environmental safeguards in the Kyrgyz Republic" the state environmental supervision is carried out for the existing facilities in the form of the state environmental control while for the planned facilities in the form of the state environmental assessment.

Currently, the control of the construction and maintenance of facilities, check of the compliance by the enterprises, institutions, organizations and citizens with the environmental requirements for environmental protection and environmental safeguards is conducted by the *State Inspectorate for environmental and technical safeguards under the Government KR.*

In accordance with the Law "On licensing system in the Kyrgyz Republic" SAEPF issues:

Licenses to:

- transport (including cross-border) of toxic waste, including the radioactive waste (Article 15);

-withdrawal of wood on the land under the forest fund (logging ticket, warrant for petty wood products);

- withdrawal of flora objects for commercial purposes (permit for removal of flora and a forest ticket);

- utilization, storage, burial, and disposal of toxic waste and toxic substances, including radioactive waste.

Permit to:

- placement of waste in the environment;
- discharge of pollutants into the environment;
- emission of pollutants into the atmosphere by the stationary sources of pollution.

Licensing of certain activities, actions and operations is carried out in order to prevent damage to the human life and health, the environment, property, public and state security, as well as the management of limited public resources.

Environmental monitoring

A number of different ministries and departments implement various monitoring functions, which can be divided into three main parts:

- environmental monitoring;
- monitoring of the environmental impact of natural and anthropogenic factors;
- data collection, processing, and analysis and decision-making (or draft decisions for the governing bodies).

SAEPF, Ministry of Emergency Situations, Ministry of Health, Ministry of Agriculture and Melioration are the key organizations and institutions responsible for environmental impact monitoring:

The following monitoring systems operate in the country:

- Monitoring of the sources of anthropogenic impact (Department of environmental monitoring SAEPF);
- Monitoring of flora and fauna, including forest resources (SAEPF);
- Land-use monitoring (Gosregister, KyrgyzGiprozem);
- Monitoring of the geological environment and groundwater (the State Agency for Geology and Mineral Resources under the Government of the Kyrgyz Republic);
- Monitoring of agricultural land (Ministry of Agriculture and Melioration)
- Monitoring of water resources (Department of Water Resources and Irrigation MA&M);
- Monitoring of changes in the state of the environment (Kyrgyzhydromet under the Ministry of Emergency);

- Monitoring the state of the tailing sites (Ministry of Emergency Situations).

- Monitoring the environmental factor impact on human health (Department of Disease Prevention and State Sanitary and Epidemiological Supervision of the Ministry of Health);

- In-house monitoring of the environmental impact of economic entities in a variety of industries.

Ministry of the economy, Ministry of transport and communications, Ministry of Energy and Industry, National Academy of Sciences of the Kyrgyz Republic, and other also collect and regularly update some information directly related to the environment and environmental management.

Parallel to the nationwide system of environmental monitoring there is a departmental environmental monitoring system operated by the companies and agencies.

The National Statistics Committee of the Kyrgyz Republic is responsible for the collection of information on the volume of discharges, emissions, waste disposal, and the condition of natural resources, and other according to the establishment of statistical reporting forms.

The companies implement their independent control.

Safeguard Policies Triggered by the Project

The proposed Project has been classified as "Category B" and the following World Bank Safeguard policies will apply: Environmental Assessment OP/BP 4.01, Natural Habitats OP/BP 4.04, Forests OP/BP 4.36, Pest Management OP 4.09, Involuntary Resettlement OP/BP 4.12 and Projects on International Waterways (OP / BP 7.50). Another Policy that is triggered by default is BP 17.50 Disclosure Policy which supports decision making by the borrower and Bank by allowing the public access to information.

Due to potential involuntary restriction of access to legal designated parks and protected areas, which may result in the adverse impacts on the livelihoods of community members, a separate Access Restriction Process Framework (ARPF) was prepared, cleared by the World Bank and disclosed before the Project Appraisal.

Table 1. The World Bank's Safeguards policies and their application to the strategic investments and pilots under the Component 2

Safeguards policies	Application
Environmental Assessment **(OP/ BP 4.01)** This Policy aims to ensure that projects proposed for Bank financing are environmentally and socially sound and sustainable; to inform decision makers of the nature of environmental and social risks; to increase transparency and participation of stakeholders in the decision-making process	**Yes.** This OP is triggered because the project, under Component 2, will support pilot investments in reforestation, community-based forest management and pasture land management for collective, equitable, and improved use of public natural resources, etc. The exact areas for funding under the project will be identified during project implementation at the initial planning stage. Although pilot investments will be limited in scope, they can potentially produce negative environmental and social impacts associated with: land degradation; air and

Safeguards policies	Application
	water pollution; biodiversity conservation; labor, security issues and health impacts, etc. It is anticipated that the above potential impacts will be for the most part low profile, temporary, limited to the project location. Given the unknown nature of all the activities and subprojects which will be designed and implementedunder Component 2, this Environmental Management Framework (EMF) is developed to define the procedures for environmental screening, assessment and management of the potential environmental impacts associated with the specific sub-projects under Component 2.
Natural Habitats (OP / BP 4.04) This Policy aims to safeguard natural habitats and their biodiversity; avoid significant conversion or degradation of critical natural habitats, and to ensure sustainability of services and products which natural habitats provide to human society	**Yes**. While the project will specifically limit/prohibit activities in natural habitat areas, the team is triggering this OP to ensure that the accompanying EMF includes actions and safeguards in the case that natural habitats will be impacted by project interventions.
Forests (OP / BP 4.36) 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	**Yes**. This project is aimed at the improvement of public and private forest management practices. All forest blocks/concessions covered by this project are already under management plans under implementation. Under Component II, the Integrated Ecosystem Management Plans will be designed and implemented consistent with sustainability criteria and practices set out in OP 4.36. Specifically, under the Project Component 2 will provide seed grants to forest enterprise ecological and environmental diversification activities. These may include sustainable timber management including value chain, nursery/seedlings, agroforestry, silvo-pastoral systems, plantation forests with short rotation for biomass production, nuts/fruits and processing, livestock/pasture, eco-tourism, payments for environmental services as determined by assessments and community co-managed enterprise process. Thus, the project aims at bringing changes in the management, protection, or utilization

Safeguards policies	Application
	of forest resources. For community or small-scale harvesting forest projects by small-scale landholders or local communities accreditation system will not be required. At the same time the EMF outlines the requirements for sub-projects to adhere to forest management standards consistent with Paragraph 12 (a) of the World Bank OP 4.36 Forests.
Pest Management (OP 4.09) 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	**Yes** The project will not finance the purchase of pesticides, but can generate a need to establish nurseries, in particular in the framework of agricultural activities. No separate pest control plan was developed; however, the EMF has sections that describe the measures to ensure compliance with national laws and requirements of the World Bank for the purchase and use of chemicals and development Integrated Pest Management (IPM) approaches for the safe use of pesticides to reduce
Physical Cultural Resources (OP / BP 4.11) 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	**No.**
Indigenous people (OP / BP 4.10) 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.	**No.**
Involuntary resettlement (OP / BP 4.12) 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 living, or at least to restore them; assist displaced people regardless of legality of tenure; pay	**Yes.** The project support is aimed at the improvement of public and private forest management practices as well as supporting community-based natural resource management approaches. There is a possibility that as a result of the participatory management planning

Safeguards policies	Application
compensation for affected assets at replacement cost; the OP Annexes include descriptions of Resettlement Plans and Resettlement Policy Frameworks	exercise, some short term and maybe permanent changes to access of pastures, forests and other lands might be proposed and supported under the project. The Forest Code of the Kyrgyz Republic specifies that forests have 'environmental, sanitary, recreation and other protective functions', meaning that commercial felling is prohibited. Sanitary felling (felling and removal of damaged or diseased trees to protect the remaining forest) is also prohibited in the walnut and juniper forests. As Kyrgyz forests are protected under this law, A Process Framework has been applied. The borrower has provided the Bank with a draft process framework that conforms to the relevant provisions of OP 4.12 as a condition of appraisal. The framework establishes a participatory process by which appropriate restrictions and mitigation measures, as well as implementation and monitoring arrangements, are to be considered.
Dam safeguards (OP / BP 4.37) 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 & reservoir capacity	**No.** Under Component 2, the Project may support activities involving minor rehabilitation, minor additions or alterations of existing irrigation infrastructure in 6 known leskhozes: Achi, Kyzyl, Nookat, Jety Oguz, Balykshi and Frunze, and an additional 6 which remain to be determined. Irrigation systems in the 6 known leskhozes are not dependent on dams, and it is expected that the same will be true for the additional leskhozes to be selected. Should this turn out not to be the case, the project will be restructured to trigger this policy.
Projects on International Waterways (OP / BP 7.50) 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	**Yes**. The activities involving minor rehabilitation, minor additions or alterations of existing irrigation infrastructure in the context of the proposed Kyrgyz Republic Integrated Forest Ecosystem Management Project fall within the exception to the notification requirement under Paragraph Page 9 of 12 Public Disclosure Copy Public Disclosure Copy 7 (a) of OP 7.50. The Project Team has consulted with LEGLE,

Safeguards policies	Application
	LEGEN and OPSOR on this matter and has requested an exception to the notification requirement.
Projects in Disputed Areas (OP/BP 7.60) 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	**No**. Project activity will not be implemented in the disputed areas
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	**Yes.** The EMFs have been disclosed and consulted in Kyrgyzstan before project appraisal and was also disclosed in the WB Infoshop.

In accordance with the Bank's safeguards policies and procedures, including OP/BP 4.01, the Project is classified under the Category "B" due to its potential impact on the population and environmentally important areas, such as forests, hay lands and other smaller-scale natural habitats; specifically related to Component 2. The above impact is specific depending on the activity and location and in some cases may be irreversible. In most of the cases, however, mitigation measures can be planned immediately. The assessment of the projects under the Category "B" examines the potential negative and positive impacts of the project and recommends measures to prevent, reduce, minimize or compensate for the adverse impacts and improve the environment

Given the unknown nature of all the activities and subprojects which will be designed and implemented under Component 2, an Environmental Management Framework (EMF) is developed. The purpose of the EMF is to provide the the rules and procedures for environmental assessment to identify significant environmental impacts of specific sub-projects (both positive and negative) in order to outline the procedures for the subprojects and determine the appropriate prevention and mitigation measures (including an appropriate monitoring plan) so that to prevent, eliminate or minimize any anticipated adverse environmental impacts. This EMF is based on the following: (i) analysis of the existing national legal documents, regulations and recommendations; (ii) safeguards policies of the World Bank, as well as other guidelines; (iii) existing EMF for similar projects of the World Bank, and (iv) experience in implementation of EMF in the projects financed by the World Bank in this sector. EMF describes procedures for the sub-projects as well as the roles and responsibilities of various stakeholders involved in the Project.

It is mandatory that during the planned project activities the sub-projects beneficiaries follow the requirements of the OP 4.04 on natural habitats which are defined as land and water areas where (i) the ecosystems' bio-logical communities are formed largely by native plant and animal species, and (ii) human activity has not essentially modified the area's primary ecological functions. All natural habitats have important biological, social, economic, and existence value. Important natural habitats may occur in tropical humid, dry, and cloud forests; temperate and boreal forests; mediterranean-type shrub lands; natural arid and semi-arid lands; mangrove swamps, coastal marshes, and other wetlands; estuaries; sea grass beds; coral reefs; freshwater lakes and rivers; alpine and sub alpine environments, including herb fields, grasslands, and paramos; and tropical and temperate grasslands.

Critical natural habitats are:

(i) existing protected areas and areas officially proposed by governments as protected areas (e.g., reserves that meet the criteria of the World Conservation Union [IUCN] classifications2), areas initially recognized as protected by traditional local communities (e.g., sacred groves), and sites that maintain conditions vital for the viability of these protected areas (as determined by the environ-mental assessment process3); or

(ii) sites identified on supplementary lists prepared by the Bank or an authoritative source determined by the Regional environment sector unit (RESU). Such sites may include areas recognized by traditional local communities (e.g., sacred groves); areas with known high suitability for bio-diversity conservation; and sites that are critical for rare, vulnerable, migratory, or endangered species.4 Listings are based on systematic evaluations of such factors as species richness; the degree of endemism, rarity, and vulnerability of component species; representativeness; and integrity of ecosystem processes.

Despite the fact that the project does not envision a wide use of pesticides and herbicides, this issue requires a through approach with the objective of proper pesticide and herbicide management in the project implementation regions. Therefore, the OP 4.09 was triggered. One of the objectives of the of the 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.

Detailed Pest Management Guidelines are presented in the Annex 3. Annex 4 presents a List of registered and prohibited pesticides in Kyrgyzstan. Annex 5 contains the

The proposed project activities aimed at reforestation and agroforestry, as well as forest management require triggering the World Bank standard OP / BP 4.36 on Forests to ensure the sustainable forest management, without significant reduction in the forestation, and the rights of communities to use the traditional forests in a sustainable manner. The project will not be involved in the activities which might negatively affect the critical forest areas or natural habitats. On the contrary, the relevant design work will improve the management of land resources, including the lay out of small plantations and fruit trees, which will make part of the forest lands, but will not have significant vegetation except for the replacement of unproductive fruit trees. The activities aimed at reforestation in the forest areas, including agro-forestry, will be coordinated with the relevant units in the countries that regulate forest management.

For community or small-scale harvesting forest pilots by small-scale landholders or local communities' accreditation system will not be required. At the same time sub-projects should adhere to forest management standards consistent with Paragraph 12 (a) of the World Bank OP 4.36 Forests. Standards of forest management developed with the meaningful participation of locally affected communities should be consistent with the principles and criteria of responsible forest management. These principles are listed below:

a) compliance with relevant laws;

b) recognition of and respect for any legally documented or customary land tenure and use rights as well as the rights of indigenous peoples and workers;

c) measures to maintain or enhance sound and effective community relations;

d) conservation of biological diversity and ecological functions;

e) measures to maintain or enhance environmentally sound multiple benefits accruing from the forest;

f) prevention or minimization of the adverse environmental impacts from forest use;

g) effective forest management planning;

h) active monitoring and assessment of relevant forest management areas; and

i) the maintenance of critical forest areas and other critical natural habitats affected by the operation.

The Requirements of the World Bank concerning public consultations and disclosure. For all the projects under the Categories "A" and "B", proposed for the World Bank financing, the borrower shall, during EA, consult relevant stakeholders, including the affected groups of the project and local non-governmental organizations (NGOs) regarding the environmental aspects of the project and take their views into account. The borrower shall initiate such consultations at the earliest possible stage. For the projects under Category "A", the borrower shall consult those groups at least twice: (a) after the environmental review and before the completion of EA; and (b) after the report on EA was prepared. In addition, the borrower shall consult such groups throughout the project implementation as necessary to solve the problems that affect them. To carry out consultations, the borrower provides the relevant information materials prior to the consultations and in the language understandable and clear to the groups that are consulted. For the projects under Category "B" the borrower should provide for an initial consultation: summary of the proposed project objectives; project description and potential impacts; for the consultation after the draft EA report (or EMF if applicable) developed, the borrower provides a summary of conclusions. In addition, the borrower shall make all the reports on EE publicly available for the project-affected groups and local NGOs

Anticipated environmental and social impacts

This Project's planned activities are anticipated to result in largely positive environmental and social impacts and no major adverse environmental impacts are anticipated. The project supports investments in sustainable forest and land management, consistent with existing management plans and therefore legislation in place. The project is expected to increase the adoption of effective forest, land, and water management practices on the project sites and thus contributes to biodiversity, soil and water conservation, and building climate resilience. All of the works associated with the Project will be implemented fully in line with the legal provisions in force in the Kyrgyz Republic, with the relevant World Bank Operational Policies, and with full respect of the forest management plans in each of the pilot leskhozes.

The Component 2 subproject works will follow the guidelines set forth in this EMF, and the provisions of the specific Forest Management Plans. Activities such as afforestation and low-risk forest management activities may also have minor associated environmental impacts. Environmental Management Framework outlines the procedure for site specific environmental screening and the development of the site-specific Environmental Management Plans (EMPs)

The identified positive impacts of the project include: (a) the integrated, fair and sustainable management of forests and landscapes by communities providing them with environmental and social benefits through improved natural resources management; (b) increased food security and household income over the longer term for the smallholder farmers, through the improvement of degraded pasture lands, the increase in forest area and increasing the non-timber forest products produced by forests; (c) improved farmer skills from training in forestry technologies, seed breeding, and land use; and (d) increased opportunity for engagement in other income generating activities or small scale businesses by smallholder

farmers through the creation of an enabling environment for leskhoz investments and new forms of public-private partnerships.

The potential negative impacts that may result from implementation of the project's activities are related to the Component 2 (Strategic Investments and Piloting of Sustainable Management Approaches) and are listed in the Table 2 below. Screening Checklist in Annex 1 contains typical mitigation measures for various types of impacts.

Table 2. Project anticipated negative impacts

Impact	Description
Aesthetic Impacts	Reconstructed, installed or constructed infrastructure, or interventions in natural settings, can by their visual characteristics affect the aesthetics of the landscape.
Impacts on soil	Although of minimal extent, the potential project works especially with some excavation, can lead to erosion of soil or landslides
	Due to the use of vehicles, machines and equipment during the works of reconstruction or limited construction, as well as during the later regular use, maintenance and management of the forested areas, occasional spills and leaks of fuel, oils and other working fluids may occur. There also may be spills of paint, varnish, bitumen or solvent during the works, but also due to improper storage or handling, which cause soil pollution.
	The use of stationary engines run on liquid mineral fuel, including power generators using liquid fuel, can also lead to fuel spills.
	Inadequate disposal of waste, in particular hazardous waste by contractors during the reconstruction / construction phase, but also by a forested area's personnel, during regular work within the forested area, can cause significant negative impacts on the soil and water courses.
	Considering that the personnel a protected area must have chainsaws for regular maintenance, it is necessary to pay attention to the lubricating oils applied. These types of oils are inevitably lost during chainsaw operation (through burning with the primary fuel in two-stroke engine of the chainsaw, as well as through leaks and dissipation into the environment) and therefore cause soil pollution.

Impacts on watercourses and hydrologic characteristics of the terrain	Ground pavement, construction or reconstruction of structures, access roads and trails, can change the regime of storm water flow in the given area (e.g. induced flow along roadsides, or accumulation of water in roadside pockets). Impacts of such changes should be carefully studied and, if necessary, corrective measures should be taken. Spills and leaks of fuel, oil, electric insulation (transformer) oils, paint, varnish, solvent or other fluids occurring during the use of vehicles, machines and equipment, but also during any works, as well as inadequate waste disposal, can lead to pollution of surface and groundwater.
	Vehicles and machines used during works cause air emissions of dust and gaseous products fuel burning
Impacts on air	All necessary works in a forested area can lead to occasional vegetation damage, disruption of migration routes of animals, fragmentation of habitats, injuring or killing of animals by vehicles.
Impacts on nature, biodiversity, habitats	Inadequate storage and use of fuel, lubricants, paints, varnishes, solvents and other harmful flammable liquids during reconstruction and construction works, but also during regular functioning and maintenance of the forested areas, can lead to fires with very harmful consequences for the biodiversity of the area.
	Inadequate storage and use of fuel, lubricants, paints, varnishes, solvents and other harmful flammable liquids during reconstruction and construction works, but also during regular functioning and maintenance of the forested areas, can lead to fires with very harmful consequences for the biodiversity of the area.
	Noise generated by the works may cause disturbance of animals

Environmental Guidelines for Assessment and Management of the Strategic Investments and Pilots

Key steps in the process of environmental assessment process are as follows:

Step 1: Initial environmental screening (Annex 1, Part 1) will include a review of technical proposals for strategic investments. Normally, a proposal would include the environmental section[1] with a description of the project site basic environmental characteristics, like, whether there is a risk that the most important natural habitats, also forests and rare and endangered species, the main waterways or underground water sources would be affected. Also, this applies to the methods of natural resource' extraction and their use for the purpose of the project, which would entail the emission of waste and pollutants, which may occur during the construction or operation of the project sites.

Depending on the nature and scale of impacts, the environmental specialist from the Project Implementation Unit (PIU) will classify the subproject and inform the project initiators about the decision on the preparation of additional environmental documentation required for the subproject. There are three environmental categories of subprojects: (i) Environmental Category «C» of the World Bank, which requires no additional environmental protection measures beyond compliance with all applicable in-country environmental and worker health and safety regulatory requirements; (ii) Environmental category «B» of the World Bank, which mostly requires a limited environmental impact assessment and/or a simple plan for the Environment Protection (EPP); and (iii) when a sub-project proposal is assigned the environmental Category "A" of the World Bank, it is considered as unacceptable and will not be financed by the project.

PIU will examine the applications submitted and assign the environmental category (according to the form in Annex A, Part 2). The results of the preliminary environmental screening are reflected in the application and recorded in the PIU archive on Strategic Investments.

During the preliminary environmental screening for strategic investments, the PIU environmental specialist will review the documents submitted for this screening of strategic investments classified as "B", (and, if necessary, make a field visit to the project site) and determine the appropriate mitigation measures. If a field visit to the site is required, the PIU environmental specialist will fill in the checklist based on the results of the field trip (Annex 1, Part 4). The applicant should reflect the recommended mitigation measures prescribed by the PIU environmental specialist in the package of application documents. If during the visit to the project site or the preliminary environmental screening, the PIU environmental specialist revealed high or significant risk, the applicant for a strategic investment will hire a local consultant to prepare an EIA and EMP. Draft terms of reference for the preparation of the EIA is provided in Annex 1, Part 5. The cost of the EIA may be included in the amount of strategic investment. When the projects are small and subject to simplified EMP the PIU environmental specialist shall review and approve EMP or the results of the simplified EIA according to the form given in Annex 1, Part 3.

When significant poetntial negative impacts are identified during the site visits or during the preliminary environmental screening, the checklist with the results of the preliminary environmental screening and site visits is to be submitted to the authorized environmental government agency for the state environmental expertise.

When significant potential negative impacts require the opinion of the state environmental expertise (SEE) such opinion is obtained by the applicant for the investment and provided to

[1] Project Operations Manual will include the format and the environmental section, related to the participants' preparation of proposals.

the PIU environmental specialistwith the attached application for an investment grant. Only after PIU received the positive resolution of the SEE on the investments, the strategic investment would be considered as eligible for financing within the project.The mitigation measures required are to be coordinated with the applicant and reflected in the Agreement on the investment grant.

During the project implementation, the PIU shall ensure the implementation of measures to mitigate the environmental impact. In case of non-compliance, the PIU environmental specialist will investigate the nature and cause(s) of non-compliance as required. Afterwards, a decision is made about the subsequent actions in order to bring the subproject in compliance or about the suspension of funding. This approach should be reflected in the required mitigations measures as stipulated in the investment grant Agreement.

Subproject Categories: the following environmental classification is used for the potential strategic investments:

Strategic investment under Category "A" (high environmental risks). The project will not finance any investments falling within category A.

Usually the folowing types of strategic investments are referred to as having "significant" impacts and should be qualified under Category "A": (a) significantly affect the population or change the conditions of the environmentally important areas, including wetlands, natural forests, grasslands and other major natural habitat; (b) potential "significant" impacts caused by direct emission of pollutants in the amount rather big to cause serious deterioration in the quality of air, water or soil; (c) large-scale mechanical impact on the object and/or the environment; (d) large-scale production, consumption or transformation of forest and other natural resources; (e) significant measurable changes in the hydrological cycle; (f) hazardous materials in the amounts exceeding small ones; and (g) major forced resettlement of people and other social irregularities. Hereby it is expected that strategic investments will not fall within the above conditions and therefore will not have a significant impact on the environment. In case when an application for funding comes under the category A, it is rejected.

There are a number of conditions that need to be considered when making decisions to bring a project under Category "A". It appens when the Project is implemented (a) within or close to the vulnerable ecosystems and ecosystems of particular value, like wetlands, virgin lands and habitats of endangered species; (b) within or close to the archaeological and/or historic sites or existing cultural and social institutes; (c) in densely populated areas that may require resettlement or potential pollution and other disturbances could significantly affect the local population; (d) in the areas prone to intensive development activities, or where there are conflicts around the allocation of natural resources along the waterways, in the areas of groundwater recharge or near the watershed reservoirs used for drinking water supply; and also on the land or water containing valuable resources (like, fish, minerals, herbs, highly productive agricultural soils); and (e) within or close to the sites of industrial activities which use or produce hazardous materials (e.g., potential areas with traditional problems of significant contamination). Similarly, as stated above, the project will not support any strategic investments, planned for the implementation in close proximity to the above areas.

In addition to Category "A" sub-projects, IFEMP shall not support other types of subprojects that are specified in the Project Exclusion List shown in the Table 3

Table 3. The World Bank Project Exclusion List

- ☒ Production or trade in any product or activity deemed illegal under host country laws or regulations or international conventions and agreements, or subject to international bans, such as pharmaceuticals, pesticides/herbicides, ozone depleting substances, PCB, wildlife or products regulated under CITES.
- ☒ Production or trade in weapons and munitions.*
- ☒ Production or trade in alcoholic beverages (excluding beer and wine).*
- ☒ Production or trade in tobacco.*
- ☒ Gambling, casinos and equivalent enterprises.*
- ☒ Production or trade in radioactive materials. This does not apply to the purchase of medical equipment, quality control (measurement) equipment and any equipment where IFC considers the radioactive source to be trivial and/or adequately shielded.
- ☒ Production or trade in unbonded asbestos fibers. This does not apply to purchase and use of bonded asbestos cement sheeting where the asbestos content is less than 20%.
- ☒ Drift net fishing in the marine environment using nets in excess of 2.5 km. in length.
- ☒ Production or activities involving forced labor**/harmful child labor.***
- ☒ Production or trade in wood or other forestry products other than from sustainably managed forests.
- ☒ Production, trade, storage, or transport of significant volumes of hazardous chemicals, or commercial scale usage of hazardous chemicals. Hazardous chemicals include gasoline, kerosene, and other petroleum products.
- ☒ Production or activities that impinge on the lands owned, or claimed under adjudication, by Indigenous Peoples, without full documented consent of such peoples.

The strategic investments, considered under Category "B" (moderate environmental risks) may require environmental assessment at the stage of evaluation, and are expected to have the basic EA and develop mechanisms for mitigation and monitoring. Annex 2 has examples of Categories A, B and C of the sub-projects. Based on the results of preliminary screening, the following environmental requirements will be applied: (a) an EMP checklist will be required for the projects with small impacts, in particular those which fall under Category B and which are typical for a variety of small-scale agriculture activities, activities on afforestation and gardening, investments in small construction and refurbishment; (b) simplified EA and EMP for the investment projects of Category "B", which are planned in the areas adjacent to natural habitats or larger-scale agriculture and horticulture activities, the areas of collective pasture management, as well as forestry and agro-forestry; and (c) standard EIA and EMP for more complex projects, including alternative renewable energy systems, small hydroelectric power plants and similar investments. The first two proposals for strategic investments in the Category "B" will be subject to the prior and subsequently post-project review by the World Bank.

Step 2: EIA and EMP preparation: When sub-projects require EIA and EMP, if and when required by the Kyrgyz Republic the project initiators will prepare the appropriate documents for submission for review and approval by the state agencies assigned for such purpose by the legislation of Kyrgyz Republic within the timeframe set by such agencies. The EMP template is provided in Annex 1, Part 5. Depending on the project's environmental impacts, the environmental documentation can either be presented as part of the overall project documentation submitted for evaluation to the approving authority, or may require a separate report.

Step 3: Review of the EIA and EMP. At this stage the decision is made on the project environmental aspects and any additional measures or changes required with respect of the proposed plan for the environmental protection. For the small-scale projects requiring simplified EMP (not subject to the state environmental review), the PIU environmental specialist will review and approve the EMP or the results of the simplified EIA (Annex 1, Part 3). Where significant negative impacts are likely to be expected (based on the EIA) it is required to submit the EIA to the State Environmental Expertise. If SEE is needed, it must be obtained by the applicant for strategic investments and submitted to the PIU environmental specialist together with a proposal for strategic investment. Only after the PIU received the formal SEE approval of the investment proposals the proposal for strategic investment will be considered eligible for financial support within the project. In such cases the PIU will specifically seek the practical possibilities and identify the monitoring mechanisms for the proposed mitigation measures and ensure that the costs of environmental protection have been taken into account in the project cost.

In the case of strategic investments under Category «B», which include new construction and forest management activities, it might be necessary to make the EIA/EMP document public and conduct public consultations with the key stakeholders, including local communities. The purpose of the public consultations is to inform the local population groups which might be affected by the investment activity and provide the opportunity for them to express their views regarding any adverse environmental issues that, in their view, might arise in the course of a subproject implementation. Any legitimate issues that will be raised during the public consultations should be included in the EMP. Thus, the people's concerns will be taken into consideration in the implementation of strategic investments. Although the reconstruction of existing facilities, possibly, would not require special public hearings, the project beneficiary have to inform all the stakeholders about the construction by setting the notice signs on the territory of the works. In addition, all information, directly related to the activities related to the strategic investments should be publicly available on-line on the website PIU. The documents about the results of the public consultations are extremely important and should be included in the EMP. Such documentation should contain (i) the date and venue of the consultations; (ii) a list of persons with whom the consultations were held; (Iii) the key issues raised during the consultations; and (iv) the mechanisms suggested by the project design for the settlement. The PIU environmental specialist will determine the need for information disclosure and public consultation based upon the project screening. All sub-projects shall comply with such established requirements and any applicable requirements under Krygz legislation.

Step 4: Oversight, Monitoring and Reporting. The Subproject is responsible for the implementation, supervision and reporting on environmental management and related requirements. The PIU will oversee the implementation of the relevant requirements/ measures during the space planning, landscaping, civil works and operation and implementation of corrective measures to remedy non-compliances. Responsibility for the preparation of the progress reports will be placed on the sub-project beneficiaries, and such reports will be submitted twice a year to the PIU, and as required by legislation of the Kyrgyz Republic, to the authorized state body on the environment protection,. Monitoring reports during the project implementation will provide information on: project status and activities, environmental compliance and performance (including non-mitgated environmental impacts or effectiveness of mitigation measures), any proposed measures to address non-compliances or environmental risks. Such information enables the subproject implementer and the PIU to evaluate the success of the mitigation measures undertaken, as part of the project supervision,

and allows taking the corrective action, when necessary. A template for Environmental Monitoring Plan is given in the Annex 1 Part 7 of the current EMF. Monitoring Plan should take into consideration the results of EIA and mitigation measures described in the EMP.

In particular, sub-project specific monitoring plan should contain the following: (a) data parameters to be measured, methods to be used, sampling locations, and frequency of measurements; and (b) monitoring and reporting procedures to (i) ensure early identification of issues that require special mitigation measures, and (ii) provide information on the progress and results of mitigation.

Key obligations of the PIU

PIU will ensure that the subproject worksactivities are evaluated based on environmental considerations and the EMF is adequately implemented. Therefore, they will be responsible for:

(a) Coordinate issues related to the environment and environmental assessment (EA);
(b) Monitor of environmental impacts as part of the overall monitoring efforts related to the grant investment implementation;
(c) Ensure all required environmental requirements are include in individual grant investments, i.e., support the proper fulfillment of the conditions specified by the EIA within the grant investment implementation.

Specifically, PIU will be responsible for the following:
(a) Environmental screening of grant investments;
(b) Eligibility assessment of the grant investments in environmental perspective;
(c) Provision of the essential environmental information to the applicants for the grant investments (important to inform them about the environmental criteria that will be used and explain all the obligations in respect of the EIA procedure, etc.).
(d) Determination of subproject specific environmental requirements (mitigation measures, monitoring, etc.)
(e) Supervision of mitigation and environmental protection measures required for environment protection in subprojects.

The PIU may coordinate and/or utilize the supervision/oversight capabilities and results of the local environmental bodies responsible under law for the for environment protection.
PIU will present a report every 6 months to the World Bank on the the EMF implementation and the environmental characteristics and performance of the specific subprojects.

Capacity building

Training for the PIU environmental specialist. In order to ensure successful implementation of the EMF a number of the capacity-building and training activities are required. Specifically, prior the beginning of the review process and implementation of strategic investments the PIU will deliver training for their expert on environmental safeguards so that they are informed and able to manage the process of application, review and approval of sub-projects from the point of view of environmental safeguards. It is recommended to combine the capacity building activities IFEMP with those of the Program on Climate-Change Adaptation and Mitigation for the Aral Sea Basin (CAMP4ASB), which is also funded by the World Bank and shares the same PIU in the Satet Agency for Environment and Forestry of the Kyrgyz Republic. Combining capacity building activities would enable leveraging the expertise and reduce

training costs. The suggested capacity-building activities and the related costs of the CAMP4ASB are presented in Table 1.

The training for the PIU environmental specialist shall include (i) the concept of the EIA in relation to the sustainable development framework; (ii) the theory and practice of EIA; (iii) targeted benefits and rationale for EIA in the context of development; (iv) EIA in the project cycle; (v) introduction to EIA process, including screening, survey, development of TOR and work plans, research and reporting of EIA; impact analysis and forecasting, etc. (vi) review of the EIA process and decision-making; (vii) monitoring, oversight and reporting after the EIA process, etc.

Training for the beneficiaries of the strategic investments. Another important group that requires training on environmental safeguards include interpreneurs from the forestry sector and other sectors, representatives of the leskhoses, local authorities, and land tenants Seminars for this group will be targeted at raising the environmental awareness and gaining the practical experience.
if possible, The tentative budget of the proposed capacity-building and training activities for various groups of beneficiaries within CAMP4ASB is presented as an example in Table 4 below A more detailed budget to cover all the activities related to EMF (training, capacity building, awareness raising, independent evaluation and monitoring of EMF implementation) will be developed at the later stages of the IFEMP Project.

Table 4. Estimated budget for the implementation of capacity-building activities CAMP4ASB

Target group	Training Objective	No of seminars/ types of activity	Cost of seminars/types of activity in US Dollars
A. Environment Protection and Sustainable Use			
1. PIU staff & agencies who approve the Grant	Ensure that the PIU and other relevant departments, who approve the Grant are informed about the importance of the environmental protection and know how to recognize the environmental impacts during possible implementation of different activities to be funded.	2 seminars (Year 1 and Year 4)	5000/seminar
2. PIU Environmental specialist	Train the PIU environmental specialist how to inspect the projects, process EIA and study EIA during the training trip	1 regional study trip abroad (Central Asia) (Year 1)	5000/Study tour
3. Project beneficiaries/sub-borrowers	Inform about the importance of the environmental protection and get practical experience for the observation and study of methods of sustainable agriculture and affordable methods used by industrial and agriculture sectors.	2 seminars (Year 1, Year 2)	4000/seminar
4. Farmers /farmer's groups	Train the farmers/grantees on the environmental protection issues and methods and procedures for the environmental protection	2-day domestic and regional seminar	4000/seminar

5. Regional/local government officers in charge of the investment grants	Train how to apply the recommendations on the environmental protection, how to identify sub-projects that could fall under the Bank's Environmental Categories, and also, when full and/or partial EIA is required, and identify actions that could affect the environment and EIA organization in the course of the sub-project activities	2 trainings/ seminars (Year 1, Year 3)	5,000/seminar
B. Agricultural pest control			
6. PIU staff and agricultural staff	Ensure that PIU staff and sectoral personnel are informed about the harmful environmental and human health impacts of pesticides, as well as about the importance to promote the integrated pest control strategy.	2 trainings/ seminars (Year 1 and 2)	10000/seminar
7. Project beneficiaries/sub-borrowers	Raise awareness and practical experience based on observation and screening of the integrated agricultural pest control method and methods of affordable horticulture practices and safe use of pesticides.	3 trainings/ seminars (Year 1, Year 3 &Year 5)	4000/seminar

Funding for the implementation of the Environmental Management Plan

All environmental mitigation and protection measures, including monitoring, for the the construction and operation of the subprojects is the responsibility of the Project beneficiaries and shall be included as part of the project cost for the subproject.

Oversight and Monitoring Activities

The PIU is responsible for the overall implementation of the EMF.During the subproject implementation PIU shall responsible for the oversight to ensure that the sub-borrowers implement site-specific mitigation measures

Obligations by contractors

The actual sub-projects shall be implemebnted by the sub-borrowers or contractos hired by the sub-borrowers. Contractors shall be required by the subproject owner to comply with all applicable environmental and worker health and safety regulatory requirements and the World Bank safeguard policies. The Contractors shall assign personnel responsible for environment, health and safety during the construction and operation.

Annexes

Annex A. Procedure for Environmental Impact Assessment

Annex A/ Part 1 ENVIRONMENTAL SCREENING CHECKLIST

(to be completed by Sub-borrower)

1. **Project Name:**

2. **Brief Description of Sub-project** to include: nature of the project, project cost, physical size, site area, location, property ownership, existence of on-going operations, plans for expansion or new construction.

3. **Will the project have impacts on the environmental parameters** listed below during the construction or operational phases? Indicate, with a check, during which phase impacts will occur and whether mitigation measures are required.

Environmental Component	Construction Phase	Operational Phase	Mitigation Measures
Terrestrial environment			
Soil Erosion: does the project involve crop agriculture? If so, which crops? Is agricultural field is located on the slopes and/or on the plain areas? Will the project involve ploughing/plant cultivation on the slopes?			
Habitats and Biodiversity Loss: Will the project involve use or modification of natural habitats (pasturing on and ploughing up the steppe areas, cutting or removal of trees or other natural vegetation, etc.)			
Soil pollution: Will the project applies pesticides? If yes which types and their amount?			
Land, habitats & ecosystems degradation: Is the area which is to be used currently a natural (not converted) habitat (forest, wetland, natural grassland, etc.)? Will the project involve change of land use			
Land degradation: Will the project involve land excavation?			
Generation of wastes – what type of solid and liquid wastes will be generated (various types of construction wastes, wastes from agro-processing activities, livestock manure) and their approximate amount. Will hazardous wastes be generated and if so what types and quantities			
Biodiversity and Habitats Loss: Will the project located in vicinity of protected areas or other sensitive areas supporting important habitats of natural fauna and flora? Is it planned enlargement of area under agricultural crop production based on transformation of natural habitats?			

Crop production and cultivation of perennial crops - whether the project provides appropriate farming methods?			
Underground water pollution - if the project involves production of stall fed livestock does it has a manure platform?			
Construction			
Aquatic environment			
Water Quantity: will the project involve water use? Which volumes and from which water source (centralized water supply system and/or from water reservoir) ? Does the project involve irrigation? Is any source of water for the project include a reservoir?			
Water Quality/Pollution: Will the project contribute to surface water pollution – what will be the approximate volumes of waste water discharge? Does the project involve discharges of waste waters in water reservoirs and/or in centralized sanitation network/septic tank?			
Contamination of groundwater and surface water: Will the project be applied pesticides and fertilizers, contributing to pollution of surface waters?			
Degradation of natural aquatic ecosystems – if the project involves discharges in water courses and reservoirs of solid wastes; pesticides; cutting of protective shelterbelts.			
Weeds, pests, diseases: will the project contribute to spreading of weeds, pests and animal and plant diseases?			
Sedimentation of water bodies – will the project contribute to sedimentation of water bodies due to soil erosion ?			
Other impacts			
Socio-economic environment			
Social impacts – does the project involve the following: (a) occupational safeguards issues; (b) health hazards; (c) involuntary land acquisition or displacement of third parties using land; (d) loss of access to sources of income; (e) loss of physical and/or economic assets; and (f) disturbance of residents living near the project area.			
Does the project per national legislation require public consultation to consider local people environmental concerns and inputs?			
Will the project assure non-deterioration of human health, occupational safeguards and non-disturbance of residents living near project area? If no, is it possible by applying proposed mitigation measures to reduce the project environmental and social impacts to admissible			

levels?			

4. For the environmental components indicated above, and using the information provided in the table below **describe the mitigation measures that will be included during the construction (C) or operational (O) phase of the project or both (B). Typical mitigation measures could be found in the point 5 and Annex C and D below.**

Environmental Component	Phase (C, O or B)	Mitigation Measures

5. Examples of Mitigation Measures

Environmental Component	Mitigation Measures
Soil Erosion: does the project involves crop agriculture? If so, which crops? Is agricultural field is located on the slopes and/or on the plain areas? Does the project involve ploughing/plant cultivation on the slopes?	1) Ploughing across the slope 2) Contour tillage 3) Avoid creation of new terraces since it is linked with loss of topsoil, etc. 4) Appropriate crop rotation: fallow land – wheat – maize – sunflower – Lucerne – Lucerne (2 years long) – legumes (pea, haricot, etc.) / wheat maize, etc. 5) On lands which are subject to erosion preferable cultivation of plants with require dense sawing (e.g. wheat, rye, etc.) and avoid cultivation of tilled crops (e.g., maize, sunflower), 6) Orchards: creation of grass strips between the rows, deep cultivation between the rows, 7) Where possible, to use the branch of field crops with the branch of cattle-breeding and gardening, etc.
Habitats and Biodiversity Loss: Will the project involve use or modification of natural habitats (pasturing on and ploughing up the steppe areas, cutting or removal of trees or other natural vegetation, etc.)	1) Avoiding use of remained natural or semi-natural steppe areas for pasturing and crop production 2) Avoid, where possible, cutting of trees and other natural vegetation, etc. 3) Minimize loss of natural vegetation/ Protection of vegetation during construction activities
Soil pollution: Will the project applies pesticides? If yes which types and their amount?	1) Use of less harmful (non-persistent) pesticides 2) Not to apply more pesticides than needed 3) To ensure appropriate pesticides handling to avoid polluted surface runoff, etc.
Land, habitats & ecosystems degradation: Is the area which is to be used currently a natural (not converted) habitat (forest, wetland, natural grassland, etc.)? Does the project involve production of livestock? If so, what type and how many? Will the animals be stall-fed, pastured or free-ranging?	1) Not to exceed pastures' capacity (on degraded lands this is 0,3-0,5 conv. cap/ ha; on good lands – 1,5 conv. cap/ per ha) and avoid overgrazing 2) Where possible, use of stabling 3) Where possible, do develop sawn pastures 4) Where possible, fencing the grazing areas to use them subsequently, giving to others possibility to restore, etc. 5) Not to graze in natural areas in early spring and late autumn, etc.) 6) Use natural meadows and grasslands rather for mowing than grazing, etc.
Land degradation: Will the project involve land excavation?	1) Removal of topsoil to adjacent agricultural lands
Generation of solid wastes – what type of wastes will be generated (various types of construction wastes, wastes from agro-processing activities, livestock manure) and their approximate amount	1) Separation of wastes, their usage and recycling 2) Disposal on authorized landfills 3) Full utilization of manure as organic fertilizers
Generation of toxic wastes – what types of toxic waste will be generated (obsolete and unusable pesticides and mineral fertilizers; chemicals used in agro processing activities; asbestos) and their approximate amount.	1) Clearly marking toxic wastes on the project site as hazardous material and securely enclose them inside closed containments, as well as label them with details of composition, properties and handling information; 2) Disposal on special toxic wastes disposal sites.

	3) Usage of specially licensed carriers for transportation and disposal of toxic wastes 4) Ensure containers with hazardous substances are placed in an leak-proof container to prevent spillage and leaching; 5) Ensure the asbestos is not reused
Biodiversity and Habitats Loss: Will the project located in vicinity of protected areas or other sensitive areas supporting important habitats of natural fauna and flora? Is it planned enlargement of area under agricultural crop production based on transformation of natural habitats?	1) Consideration of alternative locations, where possible 2) Careful timing of works and work seasonally, as appropriate: no construction during breeding season 3) Where possible, to fence the area under construction to lessen even occasional disturbance on habitats and biodiversity 4) Inform personnel about importance of adjacent environmentally important area, if any 5) Where possible, to plant (or maintain) green corridors to ensure movement of terrestrial fauna
Underground water pollution – does the project involve usage of fuel and lubricants? if the project involves production of stall fed livestock does it has a manure platform?	1) Fuel and lubricants: use of specially arranged sites (with concrete floor) for fuel and lubricants handling and storage to avoid their leakages into the soil and runoff into water bodies 2) Pesticides: see above 3) Use of special platforms and tanks with a waterproof bottom for accumulation of manure and preparing of organic fertilizers, etc.
Construction	1) Careful selection of location for and planning of the project 2) To minimize construction site's size and design work to minimize land affected, 3) Where possible, to execute construction works during dry season to avoid excessive contaminated runoff 4) Properly arranged waste disposals 5) Cleaning of construction site, replacing lost trees, boundary structures, re-vegetation of work area
Air quality	
Will the project provide pollutant emissions? Which types of pollutants (SOx, NOx, solid particles, dioxins, furans, etc)	1) Use of approved methods and techniques to prevent and control emissions (e.g. absorption) 2) Where possible, enclosure of dust producing equipment, and use of local exhaust ventilation 3) Arrange barriers for wind protection (if raw material is stored in open piles 4) Where possible, use of fuels with a low sulfur content, such as natural gas or liquefied petroleum gas and use of low-sulfur raw material 5) Where possible, installation of dedicated filtration systems, etc 6) Selection of materials or processes with no or low demand for VOC-containing products 7) Where possible, to install and modify equipment to reduce solvent use in manufacturing process 8) To execute strict primary and secondary control of air emissions, etc.
Water Quantity: will the project involve water	1) To ensure natural flow of water/ minimum

use? Which volumes and from which water source (centralized water supply system and/or from water reservoir)?	disruption of natural streams flows 2) To install water meters to control and minimize water use 3) Avoid or minimize surface water abstraction in case of downstream the wetland is situated, etc.
Water Quality/Pollution: Will the project contribute to surface water pollution – what will be the approximate volumes of waste water discharge? Does the project involve discharges of waste waters in water reservoirs and/or in centralized sanitation network/septic tank?	1) a. For small rural enterprises: to install local wastewater treatment facilities (e.g., septic tanks) b. For big enterprises: not to exceed established limits of pollutants in effluents 2) To minimize water and mud collection 3) Renovation of existing sewerage system/ connection to municipal sewerage system 4) Properly arranged waste disposals 5) Where possible, to plant at least bush vegetation down slope to reduce pollutants runoff into surface water bodies
Loss of Biodiversity: Will the project involve introduction of alien species (in case of aquaculture projects)?	1) Where possible, to avoid introduction of alien species 2) In case of use of already introduced alien species to ensure their non-coming into natural ecosystems, e.g., during water discharge from ponds, etc.
Loss of Biodiversity: Will the project located in vicinity of protected area or wetlands?	1) Not to exceed established limits of pollutants in effluents and emissions 2) To avoid or minimize construction and operational activities during breeding and migration periods, etc.
Degradation of water ecosystems	1) Avoid application of pesticides in the strip with width of 300 m along the natural surface water bodies, 2) Avoid cutting of trees and other natural vegetation along the water bodies 3) Avoid coming of alien species into natural water bodies, 4) Properly arranged waste disposals sites, etc.
Weeds, pests, diseases: will the project contribute to spreading of weeds, pests and animal and plant diseases?	1) Avoid cultivation of plant mono-culture on agricultural lands 2) Appropriate pest management 3) Giving the priority to the agro-technical and biological measures for the control of weeds, pests, and diseases, 4) In cattle farms, to adhere carefully established rules to prevent or minimize animal diseases, etc.
Sedimentation of water bodies – will the project contribute to sedimentation of water bodies due to soil erosion ?	1) To avoid excessive soil erosion: see above 2) Minimize soil processing 3) Provide retention/ sedimentation ponds, as necessary 4) To control reed harvesting (to avoid over-harvesting)
Socio-economic environment	
Social impacts – does the project involve the following: (a) occupational safeguards issues; (b) health hazards; (c) involuntary land acquisition or displacement of third parties using land;; (d) loss of the access to sources of income; (e) loss of physical and/or economic assets; and (f) disturbance of residents living near the project area.	Appropriate project design: location, methods of construction, use of safe technologies during operation period, work timing, careful decommissioning, etc. Projects which result in involuntary land acquisition or displacement of third parties using land; relocation or loss of shelter, loss of assets or access to assets, or loss of income sources or means of livelihood whether or

	not there is displacement will not be financed by the project.
Does the project per national legislation require public consultation to consider local people environmental concerns and inputs?	If yes, anticipated public concerns, e.g., project location, waste disposal sites, harmful emissions into environment, and aesthetic arrangement of constructed sites? etc.
Will the project assure non-deterioration of human health, occupational safeguards and non-disturbance of residents living near project area? If no, is it possible by applying proposed mitigation measures to reduce the project environmental and social impacts to admissible levels?	1) To ensure collective and individual protective measures (work clothes, masks, shoes), when needed. 2) To adhere established occupational safeguards requirements as well as simple rules, e.g.: a. water spaying twice a day during construction to avoid dust b. ventilation of internal areas during and post construction c) timing of work 3) To conduct regular instructing of employees on health and occupational safeguards requirements 4) To restrict vehicle speeds and trough-traffic in residential areas, especially trucks, using signing and appropriate design 5) Restrict trough-traffic in residential areas 6) Work timing to minimize disturbance/ restrict construction to certain hours, 7) Restrict movement of hazardous materials in residential areas/ regulation of transportation of materials; apply any load restriction required during and post construction periods, 8) Incorporate safeguards and environment protection requirements in the project contract documents, etc.

Annex A. Part 2

(to be completed by the PIU environmental specialist based on the findings of the environmental screening and scoping process)

1. Project Environmental Category (B or C) _____

2. Environmental Assessment required (yes or no) _____

3. Type of Environmental Assessment (for Category B projects - partial EIA and/or EMP checklist)
_____

4. Types of EA documents (partial EIA, including site assessment and Environmental Management Plan for category B projects; Site Assessment and EMP checklists for small scale category B projects)
_____

5. What environmental issues are raised by the sub-project?
_____
_____
_____
_____

6. If the environmental assessment is required, what are the specific issues that need to be addressed?
_____
_____
_____

7. What is the timeframe and estimated cost of the environmental assessment?

Environmental expert: **Date:** **Signature**

Annex A Part 3

Final Environmental Assessment Checklist

(to be completed by the PIU Environmental Specialist in consultation with the State Committee for Environmental Protection and Forestry) based on review of the mitigation proposed and the environmental assessment (if required).

Was an Environmental Assessment needed? (Y or N) ___ If yes, was it done? ___

Was an Environmental Management Plan prepared? (Y or N) _____

Are the mitigation measures to be included in project implementation adequate and appropriate? (Y or N) _____

Will the project comply with existing pollution control standards for emissions and wastes? (Y or N) _____ If no, will an exemption be sought? _____ _____

Is an Environmental Monitoring Plan necessary? (Y or N) ___ If so, has it been prepared? (Y or N) __Approved by the PIU? _____

What follow-up actions are required by the proponent, or the PIU Environmental Specialist?
_____
_____
_____

Were public consultations held concerning potential environmental impacts of the proposed sub-project? (Y or N)_____Were minutes recorded? (Y or N)_____

Annex: Minutes of consultation
_____ _____
_____ _____
_____ _____

Environmental Specialist : Date:

Annex A Part 4

FIELD SITE VISIT CHECKLIST[2]

Project Name: **Date/time of Visit:**

Raion: **Visitors:**

Current activity and site history

- Who is the site contact (name, position, contact information)?
- What is the area of the site to be used for project activities?
- What are current uses of the site? Are there any structures on the site?
- What were previous uses of the site (give dates if possible)?

Environmental Situation

- Are there sensitive sites nearby (nature reserves, cultural sites, and historical landmarks)?
- Are there water courses on the site?
- What is the terrain or slope?
- Does the site experience flooding, water logging or landslides? Are there signs of erosion?
- What are the neighbouring buildings (e.g. schools, dwellings, industries) and land uses? Estimate distances.
- Will the proposed site affect transportation or public utilities?

Licenses, Permits and Clearances

- Does the site require licenses or permits to operate the type of activity proposed? Are these available for inspection?
- What environmental or other (e.g., health, forestry) authorities have jurisdiction over the site?

Water Quality Issues

- Does the proposed activity use water for any purposes (give details and estimate quantity). What is the source?
- Will the proposed activity produce any effluent? (estimate quantity and identify discharge point)
- Is there a drainage system on site for surface waters or sewage? Is there a plan available of existing drainage or septic systems?
- How waste water is managed (surface water courses, dry wells, septic tanks)?

Soils

- What is the ground surface (agricultural land, pasture, etc.)?
- Will the project damage soils during construction or operations?
- Will the project affect the landscape significantly (draining wetlands, changing stream courses)

Biological environment

[2] This checklist will be completed specifically for each sub-project site as not all of these aspects are relevant to all types of projects

- Describe vegetation cover on the site.
- Is there information about rare or threatened flora and fauna at or near the site? If yes, would the project have an impact or increase risk to the species?
- Obtain a list of vertebrate fauna and common plants of the site (if available).
- Note potential negative impacts on biota if project proceeds.

Visual Inspection Procedures

- Try to obtain a site map or make a sketch to mark details.
- Take photos, if permitted.
- Walk over as much of the site as possible, including boundaries, to note adjacent activities.
- Note any odours, smoke or visual dust emissions, standing water, etc.
- Note any signs of recent destruction of crops or physical structures.

Confirm that there has been no loss of physical and/or economic assets, that no informal land users have been displaced in preparation for the project. This can be done through visual inspection, discussions with the project proponent and nearby individuals, as necessary.

Annex 1 Part 5

Terms of Reference
(for environmental impact assessment for subprojects under the category «B»)

The report on the environmental assessment of projects under the category «B», focuses on important environmental issues raised regarding any subproject. Its main purpose is to identify the environmental impacts and identifying those measures which, if incorporated into the design and implementation mechanisms of the project will be able to ensure that negative environmental impacts are minimized. The scope and level of detail in the analysis depends on the size and severity of the possible consequences.

The report on the environmental assessment should include the following elements:

a. *Explanatory note.* It includes a brief discussion of the main findings and recommended actions.
b. *Regulatory, legal and administrative structure.* This section provides a legal framework that relates to the protection of the environment in the jurisdiction where the research is conducted.
c. *Project Description.* It describes the nature and scope of the project and the geographical, environmental, temporal and socio-economic conditions in which the project will be implemented Description of the social groups that will be affected include the map of the project site, and identify any external or aids that will be needed for the project.
d. *Baseline data.* Describe the appropriate physical, biological and social conditions, including any significant changes expected before the start of the project. These should be linked with the design of the project, its location, practical activities or mitigation measures.
e. *The impact on the environment.* Describe the likely or expected, both positive and negative impacts, in quantitative terms, as far as possible. Identify mitigation measures and residual impacts after the vote mitigate these impacts. Describe the limits of the available data and the uncertainties associated with the assessment of the impact and results of the proposed mitigation.
f. *Analysis of alternatives.* Systematically compare feasible alternatives with respect to the proposed project site, its design and implementation, including the alignment of alternative situation "without project" in terms of their relative impacts, costs and suitability to local conditions. For each of the variants of quantitative assessment and compare the environmental impact and costs with respect to the proposed plan.
g. *Environment Management Plan (EMP).* If significant impacts are defined, the EMP establishes mitigation measures to be undertaken, identifying key indicators for monitoring and any need for institutional strengthening effective implementation of mitigation measures and monitoring.
h. *Annexes.* This section should include the following:
(i) The list of persons responsible for the preparation of the EA;
(ii) The list of reference documents used for the preparation of the assessment;
(iii) A chronological account of inter-ministerial meetings and consultations with NGOs and affected parties;
(iv) Tables presenting the relevant data, which were discussed in the main text, and;
(v) The list of the reports, such as resettlement plans or social assessments that have been prepared for the project.

Annex 1 Part 6. EMP format

Project Phase	Environmental Impact	Mitigation measures	Costs		Institutional arrangements		Comments
			Initial	*Operational*	*Начальная*	*Оперативная*	
Construction							
Operation							
Decommissioning							

Sub borrower: ***Signature:*** ***Date:***

Annex 1 Part 7. Environmental Monitoring Plan format

PHASE	WHAT is the parameter to be monitored?	WHERE is the parameter to be monitored?	HOW is the parameter to be monitored??	WHEN is the parameter to be monitored? (frequency)?	WHY is the parameter being monitored?	COST		RESPONSIBILITY	
						Начальные	Операционные	Начальная	Оперативная
Initial									
Construction									
Operation									
Decommissioning									

Sub-borrower: ***Signature:*** ***Date:***

Annex 2. The World Bank Environmental Categories

Category «A» Project is likely to have a significant negative environmental impact that are large scale, diverse, or unprecedented. These impacts can reach area larger than the project site or facility where the physical work are carried out, they can lead to serious and irreversible impact on the environment or human health. Sub-projects that belong to the category "A", will not be funded by the project

Category «B» projects have potential adverse environmental impacts on human populations or environmentally important areas, including wetlands, forests, grasslands, and other natural habitats, but which are less harmful than projects belonging to the category "A". These impacts are specific for each particular area; few if any of them are irreversible; and in most cases mitigation measures can be designed more readily than for projects related to the "A" category. The scope of the EIA for the Project Category «B» can vary from project to project, but it is narrower than Category «A». Environmental Assessment for Category "B" projects is looking at the potential negative and positive environmental impacts from the project, and recommends specific measures needed to prevent, minimize, mitigate or compensate for adverse impacts and improve environmental performance .

Category «C» projects are likely to have minimal or no adverse environmental impact. In addition to the preliminary environmental screening, no further EIA action is required. Category «C» includes activities the volume, location and content of which will not lead to serious impacts on the environment.

Reports on the results of the EIA for the sub-projects of the Category «B» are a subject to subsequent review by the World Bank. The first two sub-projects of the Category «B» Category will be the subject to prior review by the Bank, and then subsequent review.

It is important that the project management unit and the agency that allocates funds for the project are able to identify activities for which funding is requested and which may fall under "A" or "B" categories of the World Bank. For the latest information on environmental categories go to www.worldbank.org/environment

Subprojects categorized as "A", "B" or "C" include the following:

Category "A" sub-projects	Category "B" Sub-projects	Category "C" Sub-projects
Implementation of activities in protected areas and other nationally recognized vulnerable areas and wetlands **Agriculture and pastoralism (large-scale)** - Agriculture, horticulture, grazing land, vineyards and orchards (medium scale intensive operations over an area of 500 ha) - Reclamation of land fallow (more than 1000 ha); - The use of agricultural land (50 hectares) in the non-agricultural (commercial or industrial) to **Irrigation (large-scale)** - Development of resources of the river basin; - Development of thermal and hydro power;	**Forestry on the wild land** **Joint Forestry** Medium-sized (over an area of 500 ha) **Agriculture and pastoralism (medium-sized)** - Agriculture, horticulture, grazing land, vineyards and orchards (medium scale intensive operations in areas from 50 to 500 hectares) - Reclamation of land fallow (on an area of 1,000 hectares); - The use of agricultural land (over an area of 30 to 50 hectares) in the non-agricultural (commercial or industrial) to - The use of virgin soils and pristine expanses for intensive agriculture - Plantations on undeveloped land - Construction of buildings for storage of agricultural products and agricultural products - Construction / reconstruction of warehouses for storage of chemical pesticides and fertilizers **Irrigation (medium scale)** - Projects on watersheds (management or rehabilitation); - Maintenance and modernization	**Joint forestry** - Small-scale (area of less than 500 hectares) of degraded agricultural lands **Agriculture and pastoralism (small-scale)** - Agriculture, horticulture, grazing land, vineyards and orchards (on a small scale on an area of 50 ha) located on reclaimed land already - Afforestation of degraded agricultural lands - Small-scale cultivation of land (less than 100 ha) - Planting of green belts on cultivated lands - The construction of greenhouses without the engineering and boilers for heating - - The use of agricultural land (over an area of 20 to 30 hectares) in the non-agricultural purposes in developed areas - The acquisition of tractors and other agricultural machinery - Purchase of drought-resistant seeds ***Irrigation (small scale)*** -drip irrigation and irrigation by means of plastic pipes (small) -planning of irrigation timeframes - furrow irrigation

	(small);	

Annex 3. Pest Management General Guidelines

The pest management issues which can be potentially raised by the project may relate to possible direct purchasing or 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.

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). The 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. 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.

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.

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 phase outs;
- 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.

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.

Pest Management Plan (PMP). 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 considering 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.*

Reviewing and approving Pest Management Plan. A PMP should be prepared in all cases of direct purchasing and usage of pesticides by all subprojects beneficiaries. The draft PMP should be reviewed by the PIU environmental specialist, who will provide their approval. These documents are also subject to WB prior review for the first two such types of subprojects.

Safety issues in mineral fertilizers usage and handling. Similarly as in the case of usage of pesticides, fertilizers usage may provide important benefits, they also pose certain risks associated with accidental expose of environment and of farmers during their inappropriate handling and usage. To avoid adverse environmental impacts while using mineral fertilizers it is necessary to comply strictly with a series of requirements, stipulated in the existing legal documents as well as in the fertilizers Guidelines for their handling. The rules and procedures of production, storage, transportation and usage of the mineral fertilizers are reflected in a relatively small number of documents, and most of them were adopted at the time of the USSR.

Main requirements while using mineral fertilizers. The usage of different mineral fertilizers should be done depending on such factors as type and quality of the soil, type of the crop, system of crop rotation, weather and climate conditions, ways and terms of their application.

Provisions with regard to fertilizers storage:

- Keep stocks of fertilizers, and soil amendment materials to the minimum required.
- Ensure that the storage facility is appropriately secured.
- Fertilizers and soil amendment materials are not to be stored in contact with ground surfaces.
- Storage areas/facilities are to weather-proofed and able to exclude runoff from other areas.
- Do not store in close proximity to heat sources such as open flames, steam pipes, radiators or other combustible materials such as flammable liquids.
- Do not store with urea.
- Do not contaminate fertilizers, and soil amendment materials with other foreign matter.
- In case of fire flood the area with water.
- If augers are used to move the material ensure that any residue(s) in the immediate area is cleaned up.
- Dispose of empty bags in the appropriate manner.

Provisions with regard to fertilizers field usage:

- Keep fertilizer amounts to a minimum and covered to avoid unnecessary expose to open air.
- Keep spreaders and air seeders that are left in the field overnight covered.
- Cover spreader and air seeders between jobs.
- Ensure that the drill, air seeder and/or fertilizer box is completely empty at the end of each day. If the drill, air seeder and/or fertilizer box cannot be fully emptied fill to capacity prior to storage for the night.
- Do not store dry urea with dry ammonium nitrate.

Ensuring minimization of hazards associated with inappropriate handling and usage of fertilizers:

The Table below provides information about typical hazard scenarios that that may arise in conjunction with the procurement, handling and storage of fertilizers as well as the recommended measures to control the potential risks.

Typical hazard scenarios and recommended measures

Likely Hazard Scenario	**Recommended Control Strategy**
Spillage	• Ensure all storage areas and/or facilities are secure and appropriate. • Ensure all fertilizer products can be contained within the storage area and/or facility selected. • Provide appropriate equipment and materials to clean up a spillage
Transportation and delivery of goods	• Cover any loads of fertilizer products whilst in transit. • Ensure that deliveries of fertilizer products are made at appropriate times. • Do not accept any containers of fertilizer products that are damaged and/or leaking.

	• Ensure that any spillages that occur during delivery are cleaned up appropriately.
Drift of dust from storage areas and/or facilities	• Keep fertilizer products covered and/or sealed. • Clean up spillages promptly. • Keep "in use" stocks to the minimum required. • Staff responsible for storage areas and/or facilities to will ensure that the drift of dust beyond the perimeter is kept to a minimum.
Storage areas - Floors	• Keep floor surfaces swept clean of fertilizer to prevent tracking by people and/or vehicles beyond the perimeter. • Sweep up and dispose of spillages in a timely and appropriate manner.
Cross contamination of product	• Keep each fertilizer product will in a separate storage container and/or position within the facility and/or area.
Confusion of Product	• Maintain an accurate storage manifest/register. • Keep products and blends are segregated at all times. • Ensure all storage bays and bins are clearly labeled. • Ensure all storage, loading and blending plant and equipment is cleaned from all residues when changing from one product to another. • Do not store product in bags that are not correctly stamped.
Occupational Health and Safety	• Contact between fertilizer products, people and livestock will be minimized.
Risk Assessments	• Risk Assessments are required to be conducted on the procurement, storage and handling of fertilizer products.
Contact with people and livestock	• Managers will develop, implement and monitor the effectiveness of hazard management procedures. • All persons using fertilizer products are to adhere to the hazard management procedures and adopt safe working practice and ensure that direct contact with fertilizer and the inhalation of fertilizer dust is minimized. • Managers are to ensure that staff is made aware of any national and industry regulations which have to be observed.
Personal Protective Equipment	• Staff must be provided with appropriate PPE when using fertilizer products.
Lack of appropriate warning safety signage and information	• Managers must ensure that appropriate safety warning signs and/or information is displayed/ available regarding nature of hazards and risk control measures.
Poor housekeeping and/or routine maintenance	• All staff is responsible for implementing sound housekeeping practices in storage areas and arranging regular routine maintenance for all equipment used.
Defective &/or unserviceable plant & equipment	• Conduct regular inspection & testing of equipment and infrastructure to identify what maintenance requirements
Incorrect or	Fertilizer blends to be prepared using the right raw materials in the

inappropriate mixtures of product	appropriate proportions. All products will be loaded into spreaders etc in the right condition to the right weight.
No training	• Staff will undertake appropriate training.
Lack of appropriate records &/or documentation	• All relevant records and documentation to be kept and maintained e.g. training records, risk assessments, maintenance schedules, recipes for fertilizer blends, MSDS's etc.

Reviewing and approving subprojects which involve purchasing and usage of mineral fertilizers. As handling and usage of mineral fertilizers might cause harm to the environment and persons health, in the case of such types of subprojects the beneficiaries have to attach to the subproject proposal a short memo, including the following information: (a) types of fertilizer and its amount; (b) storage conditions; (c) ways of field usage; (d) measures to be undertaken to control possible hazard scenarios; and (e) responsible person. The subproject proposal along with this memo will be reviewed by the PIU Environment Specialist who will provide their approval. The first two such subprojects from will be also subject to prior review by the WB.

Annex 5 List of registered and prohibited pesticides in Kyrgyzstan

Insecticides and acaricides			
Aktellik (pirimiphosmethyl) Ambuf (permethrin) Anthio (25%) (phormotion) Apollo (clophentyzin) Applaud (buprophezin) Arrivo (cypermethrin) Benzophosphate (30%) (fozalon) Be–58 (dimetoat) Vismethrin (permethrin) Volaton (foxym) Gexasulfan (endosulfan) Danitol (phenoropathrin) Decis (deltamethrin) Dilor (betadihydrogeptachlorine)	Dimilin (diflubenzuron)DNOK (Dinitroortokrezol) Zolon 35%, 30% (fozalon) Incegar 25% (phenoxycarb) Karate 5% (lyambdacyhalothrin) Carbofos 50% (malathion) Croneton 50% (ethiophencarb) Mavric 2^E 25% (fluvalinate) Calcium Polisulphide Mezox 25%, 50% (metoxychlorin) Mitak 20% (Amitras) Neoron 50% (Brompromilate) Nossoran 10% (gexyithiazox) Nitrafen 60% (nitroalkilphenolat)	Sulfur Omite 30%, 57% (propargit) Oil Ripcord 40% (cipermethrin) Rovikurt 25% (permethrin)Sunmite 20% (piridaben) Sonet 10% (gexafluron) Sumi-Alfa (esphenvalerat) Sumiticin (phenvalerat) Talstar 10% (biphenthrin) Tiodan 35%, 50% (endosulfan) Trebon 30% (etophenprox) Festak 10% (alfamethrin) Fenval 20% (phenvalerat)	Fenrio 20% (phenvalerat) Fozalon 35% (fozalon)Phosphoamid 40% (dimethoat) Furi 10% (zetamethrin) Khostakvik 50% (heptenophos) Simbush 25% (cypermethrin) Siperkil 25% (cypermethrin) Sitkor 25% (cypermethrin) Sherpa 25% (cipermetrine) Aim 12% (chlorfluazuron) Ecamet 50% (etrinphos) Endosel 35% (endosulphan)
Fungicides			
Alto 40% (cyprokonazol) Arcerid 60% (metalaxyl+policarbicin) Afugan 30% (pirazophos) Byleton 25% (triadimeffon) Boricid 70% (sulfur+policarbycin) Vitaxid 70% (oxadixil+polikhol)	Karatan FN-57b8b 25% (dinocap) KMAX 50% (2-carbometoxiaminochinazol) Copper sulphate 98% (copper sulphate) Green vitriol (iron sulphate) Calcium polysulphide	Oxichom (oxadixil + copper oxychloride) Sulfur Polichom 80% (policarbacyn 60% + copper oxychloride) Ridopolichom 60% (metalaxyl + policarbicin) Saprol 20% (triforin)	Scor 25% (diphenconazol) Sportak 45% (prochloraz) Tilt 25% (propiconazol) Topaz 10% (penconazol) Topcin-M 70% (thyophanatemethyl) Copper oxychloride 90%, 50% Euparen 50% (dichlofluand)

Derozal 50% (carbedazim) DNOK 40% (Dinitriortokrezol)	Sulfatimis + calcium hydroxide Nitraphen 60% (cytroalkilphenolate)		
Chemicals for seed treatment			
Agrocit 50% (benomal) Apron 35, 38, 9% (metalaxyl) Baytan 15% (triadimenol) Botran 75% (dichloran)	Bronotac 12% (bronopol) Vandidat 98% (potassium viniloxyethildithiocarbamate) Vitavax 75% (carboxyn)	Derozal 50% (carbendazim) Nitrafen 60% (nitroalkilphenolate) Policarbicin 80% (complex of salts of ethilenbisdithiocarbamin + ethilenthyuramdisulphate, 1:8)	Sumi-8 2% (diniconazol) TMTD 80% (thiram) Formalin 40% (formaldehyde) Fundazol 50% (benomil)
Biological chemicals			
Agri 50% (deltaendotoxycin bisilusa turingisa) Baktospein (bisilusa turingisa) Bitoxybacillin (exotokcin bisilusa turingisa) Virin-OS (granulez virus + poliedroz virus of autumn warm)	Gomelin (bisilusa turingisa) Dendrobacillin (bisilusa turingisa, dendrolimus variety) Dipel (bisilusa turingisa, kurstaki variety)	Lepidocid (bisilusa turingisa, kurstaki variety) Trichodermin (trichoderma, trichodermin, veridin, glitoxyl) Trichodermin-BL (--»--)	Turingin-1 (exotoxyn bisilusa turingisa, turingensis variety) Turingin-2 10% (exotoxyn bisilusa turingisa, turingensis variety) uricid (bisilusa turingisa)
Herbicides			
Alirox 80% (ERTS) 72% + antidot AD-67) Acenit 50% (acetochlorus) Bazagran 48% (bentazon) Banvel 48% (dikamba) Basta 20% (ammonium gluphosinate) Gazargard-50, 50% (promethrin) Dalapon 85% (dalapon) Dual 96% (metalochlorus)	Zenkor 70% (methribuzin) Kotoran 80% (fluometuron) Kotofor 80% (dipromethrin) Kuscid 97% (monochloracetate diethilenglycolium) Nitran 30% (thrifluralin) Olitref 25% (thrifluralin) Ordam 6E 72% (molinate) Pakhton 80% (dipromethrin)	Proemetrin 50% (promethrin) Pripinat 85% (dilapon) Risan 50% (benthiocarb) Rozalin 50% (5-chlor-2-methilbenzimidazol) Saturn 50% (benthiocarb) Sonalan 33% (etalfluralin) Stomp 33% (pendimetalin) Totril 22,5% (ioxynil) Treflon 24% (thryfluralin)	Fluometuron 80% (fluometuron) Fuzilad 25% (fluaziphonbutil) Eradican 6E 72% (ERTS 72% + antidot) Yalan 60%, 10% (molinat) Sherpa 25% (cypermethrin) Aim 12% (chlorfluazurin) Ekamet 50% (etrimphos) Endosel 35% (endosulphan)

Zellek 12,5% (galoxyphonetoxetyl) Zellek super, 12,5% (galoxyphonetoxyetyl)	Penitran 33% (pendimetalin)		
Defoliants and desicants			
Basta 14% (gluphosinate ammonium) Butylcaptax 80% (butilcaptax-2-n-butilbenzotianazol+MSF+magnium chlorate)	Gemetrel 60% (derivatives of chloretylphosphone acid) Dropp 50% (tidiazuron) Drop-Turbo 20% (tidiazuron)	Threecarbamide chlorate of sodium Khayot 85% (diaquatetracarbamidechlorate of calcium) Harveid 25 F (dimedipin)	Magnium chlorate 60% Calcium chlorate-chloride 42%, 62%

Annex 5. Table 1. High toxicity pesticides prohibited to use in Tajikistan

Aldicarb - Алдикарб Brodifacoum -Бродифакоум Bromadiolone -Бромодиолон Bromethalin - Брометалин Calcium cyanide-цианид Калция Captafol- каптафол Chloretpoxyfos – Хлорэтоксифос Chlormephos- хлормефос	Chlorophacinone – хлорофацинон Difenacoum- дифенакоум Difethialone- дифетиалон Diphacinone- дифацинон Disulfoton- дисулфотон Ethoprophos- этопрофос Flocoumafen- флокоумафен	Fjnofos- фонофос Hexachlorobenzene - гексахлорбензен Mercuric chloride- хлорид ртути Mevinphos- мевинфос Parathion- паратион	Parathion-methyl- паратион метил Phenylmercury acetate - фенилацетат ртути Phorate - форат . Phosphamidon- фосфамидон Sodium f1uoroacetate фтороацетат натрия Sulfotep- сулвфотеп Tebupirimfos -тебупиримфос Terbufos- тербуфос

Annex 5. Table 2. Medium toxicity pesticides prohibited for use in Tajikistan

Acrolein	Demetol1-S-methyl	Isoxathion	Pindone
Allyl alcohol	Dichlorvos	Lead arsenate	Pirimiphos-ethyl
Azinphos-ethyl	Dicrotophos	Mecarbam	Propaphos
Azinphs-methyl	Dinoterb	Mercuric oxide	Propetamphos
Blasticidin-S	Edinofenphos	Methamidophos	Sodium arsenite
Butocarboxim	Ethiofencarb	Methidathion	Sodium cyanide
Butoxycarboxim	Famphur	Methiocarb	Strychnine
Cadusafos	Fenamiphos	Methomyl	Tef1uthrin
Calcium arsenate	Flucythrinate	Monocrotophos	Thallium sulfate
Carbofuran	Fluoroacetamide	Nicotine	Thiofanox
Chlorfenvinphos	Formtanate	Omethoate	Thiometon
3-Chloro-l,2-propanediol	Furathiocarb	Oxamyl	Triazophos
Coumaphos	Heptenophos	Oxydemeton-methyl	Vamidothion
Coumatetralyl	Isazofos	Paris green {C}	Warfarin
Zeta-cypermethrin	Isofenphos	Pentachloropheno1	Zinc phosphide

Annex 5. Table 3. Moderate toxicity pesticides prohibited for use in Tajikistan

Alanycarb	Cynalotlhrin	Phenthoate	Methasulfocarb
Anilofos	Cypennethrin	Phosalone	Methyl isothiocyanate
Azaconazole	Alpha-cypemlethrin	Phoxim	Metolcarb
Azocyclotin	Cyphenothrin	Piperophos	Metribuzin
Bendiocarb	Deltamethrin	Pirimicarb	Molinate
Bensulide	Diazinon	Prallethfin	Nabam
Bifenthrin	Difenzoquat	Profenofos	Naled
Bilanafos	Dimetoate	Propiconazole	Pyroquilon
Bioallethrin	Dinobuton	Propoxur	Quinalphos

Bromoxynil	Diquat	Prosulfocarb	Quizalofop-p-tefuryl
Brobuconazole	Endosulfan	Prothiofos	Rotenone
Bronopol	Endothal-sodium	Pyraclofos	Sodium fluoride
Butamifos	Esfenvalerate	Pyrazophos	Sodium hexafluorosilicate
Butylamine	Ethion	Pyrethrins	Spiroxamine
Carbaryl	Etrimfos	Fuberidazole	Sulprofos
Carbosulfan	Fenitrothion	Gamma-HCH	Terbumeton
Cartap	Fenobucarb	Guazatine	Tetraconazole
Chloralose	Fenpropidin	Haloxyfop	Thiacloprid
Chlordane	Fenpropathrin	Heptachlor	Thiobencarb
Chlorfenapyr	Fenthion	Imazalil	Thiocyclam
Chlorphonium chloride	Fentin acetate	Imidacloprid	Thiodicarb
Chlorpyrifos	Fentin hydroxide	Iminoctadine	Triazamate
Clomazone	Fenvalerate	Ioxynil	Trichlorfon
Copper sulfate	Fipronil	Ioxynil octanoate	Tricyclazole
Cuprous oxide	Fluxofenim	Isoprocarb	Tridemorph
Cyanazine	Formothion	Lambda-cynalothrin	Vemolate
Cyanophos	Paraquat	Mercurous chloride	Xylylcarb
Cyflutllrin	Pebulate	Metaldehyde	
Beta-cyfluthrin	Permethrin	Metam-sodium	
		Methacrifos	

Annex 6. Recommended Structure of a Pest Management Plan

Following review of the Environment Screening Checklist submitted by the sub-project applicant, the PIU Environmental Specialist will determine if the applicant needs to prepare a PMP. This determination would be made on the basis of toxicity of the pesticides to be used and the environmental risks posed by the activity. When, a determination is made that a PMP is to be prepared by the sub-project applicant, a two stage process would be applied towards the preparation of the PMP.

Stage A: Additional Information Request

The applicant would provide the following information:

1. ***Types and application of pesticides***

(i) What are the pesticides that are to be purchased, including name of product, type of formulation, concentrations of the active ingredient?
(ii) Where are the pesticides to be purchased from, including name of store and location?
(iii) What are the quantities of pesticides to be purchased and the package sizes and quantities in each package?
(iv) What type of equipment is to be used to apply the pesticides
(v) Are applicators trained in the proper and safe use of the pesticides?

2. ***Purpose and appropriateness of pesticides***

(i) What crops to you plan to use the pesticide?
(ii) What pests and/or diseases are to be controlled by the pesticide?
(iii) What non-chemical pest control measures have been used in the past to control the pests and/or diseases mentioned in (ii) above?
(iv) How often is the pesticide to be applied and in what quantities in any given application?
(v) How will the timing of the application of the pesticide be decided?
(vi) Have you been trained or received advice on non-chemical pest control or integrated pest control (IPM)?
(vii) If not trained, how do you plan to obtain assistance, advice or training in pesticide application quantities and methods; calibration of spraying equipment; use of protective gear; storage and disposal methods, etc.

3. ***Handling, storage and disposal of pesticides***

(i) How will the pesticides be transported to the project site?
(ii) Where will the pesticides be stored in the farm?
(iii) Will the storage location of the pesticide be secured / locked and who will have access to these stores?
(iv) How will animals, children and unauthorized persons be excluded from access to the storage areas?
(v) Where will mixing of pesticides happen and what precautions will be taken to keep the storage and pesticide mixing areas away from grain stores and production areas?

(vi) How will excess unused and mixed pesticide products be disposed of?
(vii) How will empty pesticide containers be disposed of?
(viii) How will pesticide records in terms of purchase, use and disposal be maintained?

4. ***Environmental Aspects***

(i) Are pesticide application areas near water bodies, wetlands or areas of known natural habitats?
(ii) Are there know natural pollinators found in the vicinity of the application areas? If so what precautions would be used to ensure that non-target beneficial species are not harmed?

Stage B: Preparation of Pest Management Plan

Based on the information provided by the subproject applicant, the PIU Environmental specialist will identify the risks associated with the application of the pesticide and the more important and most practical mitigation measures that need to be applied, including any complementary measures using non-chemical control measures. PIU Environmental specialist will advise the applicant on the scope and nature of the PMP to address potential impacts of the subproject activities. If needed, PIU Environmental Specialist can advise the applicant on professional services that could be obtained for completion of the subproject specific PMP. Typically the outline of the PMP would be the following:

(a) Purpose of Activity provides information on extent and severity of pest and diseases in the crops to be grown
(b) General Information of Area which should provide data on land use and soil, water resources, layout of facilities, etc.
(c) Review of Existing Pest Management Practices and Capacity which should provide data on current practices (chemical and non-chemical) in control of the particular pests and diseases, constraints and track record and extent to which pest and diseases of fruit and agricultural crops have been managed and controlled; and reasons for enhanced pesticide applications through the proposed strategic investment.
(d) Types, amounts and application of Pesticides provides information on the types, amounts and nature of the pesticides to be purchased and used and the current and proposed handling, application, storage and disposal methods for the pesticides
(e) Capacity, training and knowledge of the safe application and use of pesticides provides information on existing knowledge and capacity of staff and personnel in the safe use and application of pesticides and identification of gaps in training and knowledge for improving capacity.
(f) Potential risks and hazards associated with application and use of pesticides in strategic investment would provide information on the environmental and human health impacts associated with the handling, application, storage and disposal of pesticides under the strategic investment, including potential impacts on non-target beneficial species, soil and water and natural habitats.
(g) Mitigation Measures to avoid and manage potential pesticide impacts that would provide information on the following:

- Mechanical and physical control, cultural and biological control measures, if any that can be used in conjunction with or without pesticide applications to suppress or reduce the severity of the target pest or disease to be controlled;
- Chemicals and chemical procedures that will be used to control pests and diseases, conditions under which the chemicals will be used, including climatic conditions, vegetation conditions, timing of applications, to improve the effectiveness of the pesticide and reduce its environmental impacts as well as specific measures to be employed to protect sensitive ecosystems, aquatic systems and ground water;
- Management of health and safety aspects that would define measures to ensure safe handling, transport, application, storage and disposal of pesticides so as to reduce environmental and health risks;
- Measures that would be introduced for public safety and protection during pesticide applications;
- Measures to track and monitor pesticide use and effectiveness in controlling desired pests;
- Measures to be undertaken to create awareness, improve information flow and improve capacity of farm workers on the hazards on the unsafe use, handling and storage of pesticides and measures for reducing such risks, as well as options for integrated pest management;
- Measures to be taken to obtain technical support for pest management and safe use and application of pesticides, when necessary;
- Budget estimate for implementation of the PMP.

PIU Environmental Specialist would review and approve the PMP prior to the approval of the strategic investment. PIU environmental specialist will monitor the implementation of the PMP.

Annex 7. Minutes of the Consultations on EMF and Process Framework held on June 4, 2015

Community consultations on Process Framework and EMF took place on June 4, 2015. The first meeting took place in the morning at Frunze leshoz located in Kokjar ayil okmotu (12 km to the east of Bishkek). Frunze leshoz has 60-70 forest users, and it is the largest leshoz in Chui province. Out of 30 people participated, three were representatives from local governments (Kokjar, Arashan, Nizhne Ala Archa), one local councilor representing Bishkek city council. Other attendees were forest users, people who rent leshoz territories (entrepreneurs), one medical specialist, and one lawyers. Seven female participants attended the event.

The second consultation meeting took place in the afternoon of June 4 at the premise of SAEPF in Bishkek. The event was attended by: Sovet Asanov, researcher at the Institute of Forests (Acdemy of Science); Bektemirov Alymjan Kazybaevich, representative of of Union for the Protection of Environment (a Kyrgyz branch of a German non-profit organization), Aitkul Burkhanov, Director, Kyrgyz Association of Forest and Land Users, and Azamat Omorbekov, Project Coordinator, Rural Development Fund, a Bishkek-based environmental non-profit organization.

Both consultation meetings were chaired by Mairambek Aliev, the focal person of SAEPF. Alisher Khamidov, World Bank social development consultant, attended consultations.

Main issues raised:

Geographic targeting of the project. The meeting participants asked the SAEPF representative to clarify the criteria for the selection of six pilot leshozes. Also, a query was made as to why the project has not selected leshozes from Batken, Naryn and Talas. The attendees

Assessment of impact from the project: the attendees of the consultations indicated that the Process Framework and EMF need to clarify the difference between temporary and lasting impacts of the project on Project-Affected People.

Grievance Redress Mechanism: The participants found the existing GRM as satisfactory. At the same time, it was brought to SAEPF attention that both Process Framework and EMF need to make distinction between local-level and national-level GRMs. It was pointed out that many ordinary leshoz users and community members do not have access to the Internet. Some forest users will not be willing to submit formal complaints; they will prefer to send anonymous complaints. The project needs to take that into account.

Livelihood restoration: the participants of the meetings found the proposed approach to livelihood restoration as generally relevant and acceptable. The participants were informed about the differences between the Kyrgyz national laws and the World Bank procedures. They were satisfied to find out that the Bank procedures recognize informal rights to property. It was noted that the project needs to provide guarantees that project-affected people will receive compensations for losses.

Criteria for the selection of Project-Affected People: The participants of the meetings found that the criteria for determining PAPs is generally acceptable. At the same time, they informed SAEPF that in determining PAPs, the project needs to consult with local officials, members of the neighborhood committees, and respected community members (such as elders).

Compensations for loss of income: The attendees asked SAEPF to clarify who will pay compensations for impacts (the project, local government, or the national government?). Several attendees said that the project needs to reserve funds for compensations because local governments and national government often have shortage of funding to cover resettlement impact-related compensations. One attendee said that the project needs to be cognizant of the fact that some people may abuse the policy of compensations by inflating the compensation costs or by pretending to be Project-Affected Person (while they may not be PAPs); therefore, it would be important for the project to consult with local officials.

Additional suggestions on EMF

The attendees of the meetings found the EMF as well-prepared. Majority of the attendees said that the project does not seem to have significant impact on environment.

The attendees asked SAPEF to clarify the following:

- Clarify who will implement EMF and how EMF will be implemented, and who will monitor its implementation.
- Take note of the fact that leshozes and local governments will have constrained capacity and resources to monitor the implementation of environmental protection measures.
- It was suggested to keep tab of whether the recommendations are implemented and follow-up on certain projects throughout the implementation phase. Furthermore, the team was advised to consider an impact assessment of key measures suggested under the environmental assessments.

Next Steps

- Both Process Framework and EMF will be revised to incorporate comments and suggestions from the consultation meetings.
- Revised Process Framework and EMF will be posted on SAEPF website.
- SAEPF will continue collecting suggestions from community members through email, postal service, and telephone.

Список участников круглого стола по обсуждению Рамочных документов по процедурам ОП.4.12 (социальные аспекты, переселение) и управлению экологическими аспектами для проекта по интегрированному управлению лесными экосистемами

№	ФИО	Должность	Подпись
1	Араев В.А.	Арендатор	
2	Нуров А.К.	Арендатор	
3	Абдиев М.А.	Арендатор	
4	[illegible]	Арендатор	
5	[illegible]	арендатор.	
6	Жээнбаев А.	— " — " —	
7	Кадырова А.	— " — " —	
8	Солтонов [illegible]	— " — "	
9	Самудинов А.	— " — "	
10	Тазабеков Э.	Арендатор	
11	[illegible] З.	Арендатор	
12	Темиров [illegible]	Арендатор	
13	Садабаев Б.А.		
14	[illegible]	арендатор	
15	[illegible]	арендатор	
16	[illegible] Б.	арендатор	
17	Качаганов У.	орендатор	
18	Шогаев Б.	арендатор	
19	Кудайкулов А.И.	арендатор	
20	Жорманиев А.Э.	— " — " —	
21	[illegible]	— " —	
22	Алимкулов Ж.М.	Арендатор	
23	[illegible] Ш.Т.	орендотор	
24	Басканов [illegible]	лесничий	
25	[illegible]	инженер	
26	[illegible]	арендатор	
27	Качаганов У.	лесник	
28	Шакиров 2.	арендатор	
29	[illegible]	арендатор	
30.	[illegible] Т.	арендатор	

№	ФИО	Должность	Подпись
31	[illegible] М	[illegible] Депут-т ГК	
32	Узакбаев К.А	[illegible] (Глав. [illegible])	
33	[illegible] М	[illegible]	
34	[illegible]	[illegible]	
35	Муратали[illegible]	Н. Ала-Арча Айыл-Окмоту	
36	[illegible] С.	Кок-[illegible] айыл-окмоту	
37	Онолбеков А.Д	ОФ Рурал Девелопмент Фонд	
38	Бурханов А.М.	Ассоциация [illegible] Кыргызстана	
39	Асанов С.К.	Институт леса НАН КР	
40	Atsha [illegible]	Всемирный банк	
41	БектемировАК	ОО „NABU“