Food and Agriculture Organization
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Environmental and Social Management Framework

CARBON SEQUESTRATION THROUGH CLIMATE INVESTMENT IN FORESTS AND RANGELANDS IN THE KYRGYZ REPUBLIC (CS-FOR)

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LIST OF ACRONYMS

AA	*Aiyl Aimak* (rural municipality area)
AKJ	Pasture User Unions "Kyrgyz Jaiyty"
AO	*Aiyl Okmotu* (local government)
APIU	Agricultural Projects' Implementation Unit
A/R	Afforestation/Reforestation
CBD	UN Convention on Biological Diversity
CBFM	Community Based Forest Management
CCCC	Climate Change Coordination Commission
CFM	Collaborative Forest Management
CLMG	Community Landscape Management Groups
CPMDP	Community Pasture Management and Livestock Development Plans
CS-FOR	Carbon Sequestration through Climate Investment in Forests and Rangelands in the Kyrgyz Republic
CSO	Civil Society Organizations
DPLF	Department of Pastures, Livestock and Fisheries
EA	Ecosystem Approach
EbA	Ecosystem-based Adaptation
EBRD	European Bank for Reconstruction and Development
ESFM	Environmental and Social Management Framework
ESCP	Environmental and Social Commitment Plan
ESMP	Environmental and Social Management Plan
ESS	Environmental and Social Safeguards
FAO	Food and Agriculture Organization of the UN
FC	Forest Code
GCF	Green Climate Fund
GDP	Gross Domestic Product
GEF	Global Environment Facility
GHG	Greenhouse Gas Emissions
GIS	Geographical Information System
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GOK	Government of Kyrgyzstan
IFAD	International Fund for Agricultural Development
IFC	International Financial Corporation
INDC	Intended Nationally Determined Contribution
INRMCRP	Integrated Natural Resource Management and Climate Resilience Plans
IPM	Integrated Pest Management
IUCN	International Union for Conservation of Nature
JC	*Jaiyt* Committees
JFM	Joint Forest Management
JICA	Japan International Cooperation Agency
KR	Kyrgyz Republic
KSRILP	Kyrgyz Scientific-Research Institute of Livestock and Pasture
KSRVI	Kyrgyz Scientific-Research Veterinary Institute
LC	Land Code
LMPD II	IFAD Livestock and Market Development Programme II
M&E	Monitoring and Evaluation
MAFIM	Ministry of Agriculture, Food Industry and Melioration (KR)
MES	Ministry of Emergency Situations (KR)
MoU	Memoranda of Understanding

MSAC	Multi-Stakeholder Advisory Committee
NAP	National Action Plan
NBSAP	National Biodiversity Strategy and Action Plan
NDA	National Designated Agency
NDVI	Normalized Difference Variation Index
NGO	Non-governmental Organization
NRM	Natural Resource Management
NSC	National Stakeholder Committee
NSSD	National Strategy for Sustainable Development
OVOS	Russian acronym for “Assessment of Environmental Impacts”
PET	Potential Evapotranspiration
PIU	Project Implementation Unit
PLFD	Pasture, Livestock and Fishery Department
PPP	Public-Private Partnerships
PS	Performance Standards
PUU	Pasture Users Unions
RDF	Rural Development Fund
RKDF	Russian-Kyrgyz Development Fund
SAEPF	State Agency for Environment Protection and Forestry
SC	Steering Committee
SDG	Sustainable Development Goals
SFF	State Forest Fund
SFM	Sustainable Forest Management
SIVPSS	State Inspectorate for Veterinary and Phytosanitary Security
SLF	State Land Fund
TNC	Third National Communication (of the Kyrgyz Republic under the UN Framework Convention on Climate Change)
UNCCD	UN Convention to Combat Desertification
UNFCCC	UN Framework Convention on Climate Change
WB	World Bank
WFP	World Food Programme
WUA	Water User Associations

EXECUTIVE SUMMARY

The proposed Carbon Sequestration through Climate Investment in Forests and Rangelands in the Kyrgyz Republic (CS-FOR) in Kyrgyzstan project supports the Government of Kyrgyzstan by contributing to the development of a low carbon emission and climate-resilient economy. The project objective is to intervene in key hot spots of target areas with adapted forest and pasture investments and to clearly transform management of pasture and forest resources at the national and local levels to ecosystem-based sustainable natural resource management (NRM) by enhancing an integrated and participatory approach, which is adaptive to climate change and responsive to needs of local communities. CS-FOR is in line with the Government's key developmental goals and climate change plans and is anchored in its Intended Nationally Determined Contribution. The project was designed through extensive stakeholder consultation including with government, research institutions, donors working the area of climate change mitigation and adaptation, NGOs, CSOs, local government, Pasture User Unions and State Forest Fund agencies (leskhozes), among others. The NDA has issued a no-objection letter.

The Environmental and Social Management Framework (ESMF) is the tool to guide the identification and management of potential negative environmental and social impacts of proposed projects and serves as a platform for consultations with stakeholders and project beneficiaries. The ESMF is prepared in compliance with FAO Environmental and Social Management Guidelines and considering the GCF's Environmental and Social Safeguards.

Section II describes the project components and target areas. To provide context, Section III gives an overview of environmental, climate and social considerations in the country and, as available, in the target areas. The legal and institutional framework is presented in Section IV. Section V addresses the risk classification of the project including FAO and GCF Safeguards. Section VI is about stakeholder engagement, including stakeholder identification, stakeholder engagement during both project formulation and implementation, gender, disclosure and grievance redress. Sub-projects are addressed in Section VII (preparation, approval and execution; potential impacts and mitigation measures) and Section VIII (environmental and social screening and risk assessment).

I. INTRODUCTION

In the second half of 2017, upon agreement of the Government of Kyrgyzstan, FAO began the process of developing a proposal for the project "Carbon Sequestration Through Climate Investment in Forests and Rangelands in the Kyrgyz Republic (CS-FOR)". The goal of the project is to contribute to the development of a low carbon emission and climate-resilient economy. The project objective is to intervene in key hot spots of target areas with adapted forest and pasture investments and to clearly transform management of pasture and forest resources at the national and local levels to ecosystem-based sustainable natural resource management (NRM) by enhancing an integrated and participatory approach, which is adaptive to climate change and responsive to needs of local communities. As co-benefit, increasing significantly forest coverage - in hotspots with high risks of hazards such as landslides, mudslides and floods – the project will also reduce the exposure of rural communities. In other words, mitigation become an investment opportunity for the Country and an opportunity to promote and support sustainable and low emission development of rural areas.

Through an ecosystem-based and community driven approach, the project will generate benefits for both adaptation and mitigation to climate change. The paradigm shift objectives of the project will include: (a) for adaptation, increased climate resilient sustainable development; and (b) for mitigation, shift to low-emission sustainable development pathways. More specifically, the project's paradigm shift will be ensured by the combined efforts of the following: (i) policy support to enhance the enabling environment needed to sustainably scale up mitigation in the country, attract public and private investments in the forestry and pasture management sectors, promote evidence-based decision making (via remote sensing and GIS monitoring among the others) and enhance community's participation in forest and pastures governance; (ii) investments on ecosystem restoration (forests and pastures) to increase - with new methods and approaches - carbon sink potential in target areas; and (iii) support rural dwellers in reducing the negative impacts of livelihood strategies on forests and pastures.

The project will therefore address the issues of climate change mitigation and adaptation in four districts in Kyrgyzstan, including interconnectedness between ecosystems (i.e. pasture and forest land), but also how livelihoods can be improved through alternative activities. By analyzing climate trends and change projections (including through the georeferencing tool developed by the project), the project will implement ecosystem-based measures that consider the three dimensions of sustainability (environmental, social and economic), while supporting actions to ensure success (including institutional, policy/legislative, participatory and social inclusion aspects).

The principal issues in Kyrgyzstan that CS-FOR will address include livestock production, pasture management, afforestation/reforestation, improving livelihoods and people's resilience and adaptation to climate change, and supporting streamlined policy in natural resource management (NRM). These issues have been identified as crucial in light of the vulnerability of both persons and natural and productive resources to the impacts of climate change, and the need to support people to earn incomes and benefit from sustainable livelihoods.

Furthermore, all these issues are interlinked, from the ecosystem level to the institutional and governance, and policy levels. They are also part of a larger, global picture, in that results of the project – especially with regards to climate change adaptation and mitigation – feed into global processes including the UN Framework Convention on Climate Change (UNFCCC) and its related agreements/processes and achieving the Sustainable Development Goals (the UN 2030 Agenda for Sustainable Development (2030 Agenda) and its 17 Sustainable Development Goals - SDGs). Improving land degradation and biodiversity are also contributions to the UN Conventions on Biological Diversity

(CBD) and Desertification (UNCCD). The project is closely aligned with and in support of the Government of Kyrgyzstan's policies, regulatory framework and strategies to ensure strong country ownership. The project is aligned to the Intended Nationally Determined Contribution (INDC) that place agriculture, land use management and forestry among the key sectors to ensure both adaptation and mitigation to climate change. The National Strategy for Sustainable Development (NSSD) 2018-2040 and Action Plan 2017-2022 are under development; consultations with the Government confirmed that these strategies are based on the draft Agriculture Development Programme 2017-2020. The project is also in line with the United Nations Sustainable Development Goals and the United Nations Partnership for Development Assistance Framework (2018– 2022) for the Kyrgyz Republic.

The preparation process of this Environmental and Social Management Framework (ESFM) contributed to project formulation by identifying, *a priori*, "do-able" – or not – activities and provided suggestions for improvements in project activity design. This ESFM ensures that environmental and social management is integrated into the development cycle of individual sub-projects. Since exact sub-projects are not determined at the onset of project but will be decided during project implementation based on demand and consultations with the concerned communities, the ESMF is the appropriate instrument under FAO´s Environmental and Social Safeguards Policy. The ESMF serves as a practical tool to guide identification and mitigation of potential negative environmental and social impacts of proposed projects and serve as a platform for consultations with stakeholders and potential project beneficiaries. The ESMF has been prepared in compliance with FAO Environmental and Social Management Guidelines and considering the GCF´s Environmental and Social Safeguards.

II. PROJECT DESCRIPTION

2.1 PROJECT COMPONENTS

The Project goal is to contribute to the development of low carbon emission and climate-resilient economy. In the core intervention districts, the CS-FOR will target the population living in the four intervention districts for an approximate population of about 540,000 individuals. Additionally, the project will involve 6 different central institutions, 3 regional administrations, 4 districts, 60 rural communities, 49 PUUs and civil society. Under the Integrated NRM and climate-resilience plans the project will contribute to ensuring capturing about 20 million tonnes of CO2 equivalent [1] via reforestation-afforestation of 6,000 ha of severely damaged forests, the rehabilitation of about 644,000 hectares of degraded pastures, and the improved management of about 56,400 ha of forests. It will also contribute to increase the resilience of about 70% of the population in the area. Sustainability and replicability of project activities will be ensured by the newly established sustainable NRM governance at the community level and by the establishment of an improved legal and regulatory environment.

In addition to Project Management, CS-FOR has three components (Table 1), and while each have their own specific outcomes, they are all interlinked for achieving overall project objectives:

Component 1: Evidence-based Strengthening of Natural Resources Management Governance

Component 1 aims to harmonize policy and legislation to strengthen an enabling framework for integrated, participatory and adaptive management of natural resources of the forest-rangeland ecosystem, in order to promote climate change mitigation and a climate-resilient economy. Through evidence-based and inclusive processes, working with all institutions responsible for natural resources' (forests and pastures) protection and management at the national and local levels, this component will contribute to harmonization of procedures and regulations to ensure a "sustainable and climate change sensitive integrated planning, monitoring and evaluation of natural resources management. By 2024, through evidence-based and inclusive processes, relevant institutions including member-based community organizations (e.g. Pasture Users Unions (PUUs)) and self-government bodies (*ayil okmutu*) will have jointly designed integrated, participatory and adaptive NRM and climate resilience plans and monitored their proficient execution. Main activities are integrated policy and legal framework for resilient forest-rangeland ecosystems; evidence-based integrated natural resource management (NRM) monitoring and evaluation; and forest-pasture ecosystem planning and monitoring.

Component 2: Green Investments for Forests and Rangeland Rehabilitation

Through investment on afforestation/reforestation and forest enrichment, and productive investment in the productive capacities for pasture restoration for adaptive livelihood, this component will contribute to increase the resilience of the population in the target areas and to decrease their exposure to climate change related risks and hazards. Component 2 will focus on restoration and improvement of forests and pastures in the target area through the Integrated Natural Resource Management and Climate Resilience Plans (INRMCRPs). By 2025, adaptive capacity of target population will be increased and their exposure to climate risks decreased. Main activities are strengthening stakeholder capacities to manage INRMCRPs and investments, and green investment in forestry, rangeland and livestock.

Component 3: Climate-Sensitive Value Chains Development

[1] CO_2 is estimated using the FAO EX-ACT tools and GLEAM-i. Detailed and precise calculations are in Chapter 9 (on Carbon Estimations) of the Feasibility Study.

Component 3 will support increasing carbon sinks and reducing GHG emissions by pasture and forest users' access to skills and technology through the establishment of productive partnerships at ayil aimak (sub-district) level, and improved collaboration amongst value chain actors. Through provision of technical assistance and the increased access to credit, Component 3 will support the development of the selected value chains' participants towards higher efficiency and competitiveness of the marketed product. The activities of the project will facilitate access to external credit line. More specifically, Component 3 focuses on decreasing the pressure on pastures by promoting income diversification and more productive livestock generating higher returns. By 2025, agrifood value chain's carbon footprint will be reduced by adopting and disseminating climate smart and green technologies through blended finance and financial incentives. The main activities this component will focus on are: climate-sensitive chains for capacity development, and climate-sensitive value chain sustainable financing. This component will have the most directs impacts for climate change adaptation.

Table 1: CS-FOR project components

Components and outputs	detailed activities considred
1. Evidence-based Strengthening of Natural Resources Management Governance Results in brief: Through evidence-based and inclusive processes, relevant institutions jointly design integrated, participatory and adaptive NRM and climate resilience plans and monitor their execution.	
1.1 Evidence based natural resources management governance is strengthened across stakeholders	1. Legislation on tenure arrangements for forest-rangeland ecosystem reviewed for harmonization and submitted to the Parliament 2. Concept for management of municipal forest developed elaborated and submitted to the Parliament 3. Legal arrangements for management and use of municipal (communal) forest are developed and submitted to the Parliament 4. Recommendations for enforcement of sustainable management and use of forest- rangeland ecosystems proposed 5. Technical, legal and institutional approaches to advance public-private partnership in promotion of integrated natural resources management 6. Thematic studies carried out to inform dialogue and harmonization of regulatory framework /topics to be determined 7. Information awareness campaigns 8. Capacities on forest and rangeland tenure arrangements, policy making, management of the NR in line with the VGGT strengthened 9. Expertise Group established 10. National Stakeholders platform Policy Dialogue facilitated
	11. Standards, methodologies and implementation modalities for state monitoring of pasture/ rangeland resources are established 12. MoU Support: Georeferencing and geospatial analysis via GIS is mainstreamed among public institutions and stakeholders 13. Project activities and investment are georeferenced, recorded and monitored in the project Atlas (GIS-based Management Information System) 14. Evidence-based Project Planning, Monitoring and Evaluation System developed and functioning
	15. Methodologies for development and implementation of the Integrated NRM Climate Resilient Plan (INRMCRP) is finalized and approved 16. Legal arrangements for management and use of municipal forest are developed 17. Methodology and training modules on pasture-forest ecosystem management Prepared 18. Training of trainers for project stakeholders carried out 19. INRMCRP are designed
2. Green Investments for Forests and Rangeland Rehabilitation	

Results in brief: Through investment funded by forest restoration grants (reforestation/afforestation) and competitive grant schemes (public goods and productive investment for pasture restoration), the adaptive capacity of target population is increased and their exposure to climate risks is decreased.	
2.1 Green investments for forests and rangelands rehabilitation are made available	1. 50 communities and institutions are trained on technical and legal matters on forest enrichment and Afforestation/Reforestation 2. Pasture Department's capacities strengthened 3. Monitoring and evaluation 4. CLMG capacities to implement INRMCRP on pasture management are strengthened
	5. Investment in A/R and Forest enrichment 6. Investment in Pasture rehabilitation and livestock production
3. Climate-sensitive Value Chains Development Results in brief: Through blended finance and financial incentives, the adoption and dissemination of climate smart and green technologies reduces agrifood value chain's carbon footprint and increases people's adaptive capacity.	
3.1 - Selected value chains are climate sensitive and producers adopt carbon optimization technologies and practices	1. Market assessment conducted and made public 2. Agribusinesses operating in selected VCs identified and mobilized 3. Selected value chains upgraded into green/developed
	4. Credit lines for Agribusinesses

2.2 PROJECT GOVERNANCE, MANAGEMENT AND IMPLEMENTATION

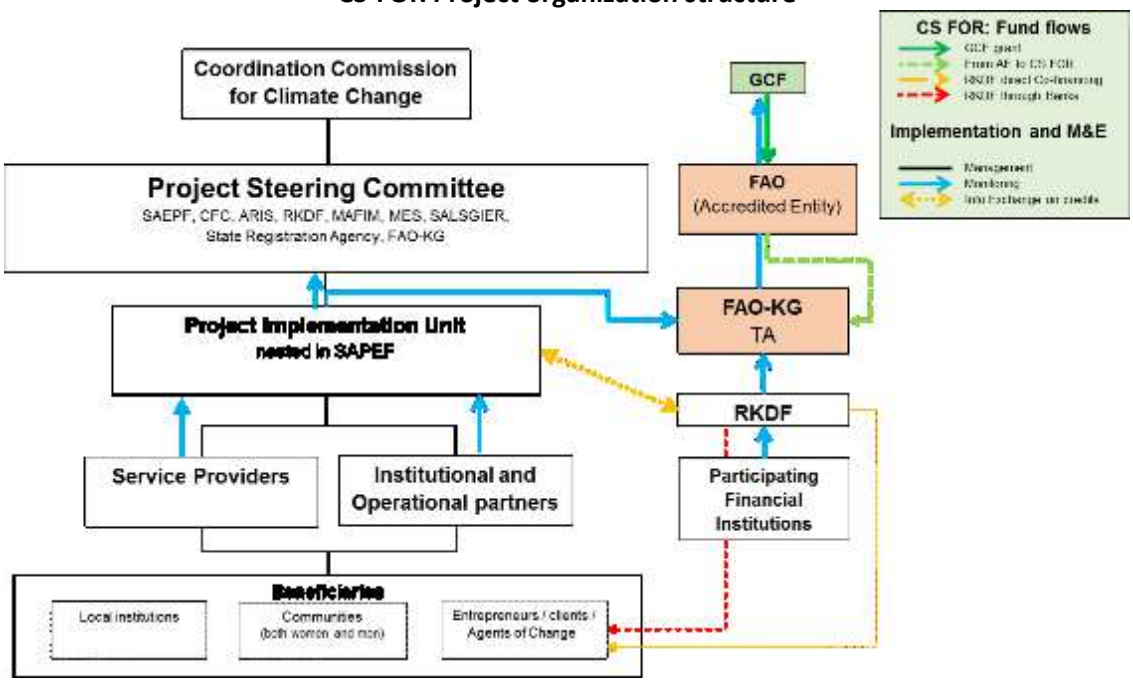
Governance. The CS-FOR project will be implemented under the aegis of the Climate Change Coordination Commission (CCCC), the national institution responsible for climate change, chaired by the First Vice Prime Minister of the Kyrgyz Republic, with the Director of the SAEPF as the Deputy Chair. The CCCC ensures multi-sector coordination of all activities in the Kyrgyz Republic related to climate change and is comprised of the heads of all key ministries and divisions, and representatives of the civil, academic and business sectors. By establishing the CCCC at the level where it has convening power, the Kyrgyz Government intends to make climate change an intrinsic part of economic development. The Commission is already operational and has a mandate to coordinate climate change activities across sectors and projects in Kyrgyzstan.

CS-FOR will establish a National Stakeholders Platform (NSP) under the CCCC, acting as Project Steering Committee (PSC) that will be providing guidance to the project's implementation. The PSC will meet on a biannual basis unless there are issues to be discussed in between meetings. The PSC will be integrated include by decision-making officials, appointed as focal points by partner institutions: SAEPF, Climate Finance Centre (CFC), ARIS, the Russian Kyrgyz Development Fund (RKDF), the Ministry of Agriculture, Food Industries and Melioration (MAFIM), the Pasture Department (under MAFIM), State Agency for Local Self Government and Interethnic Relations (SALSGIER), the Ministry of Emergency Situations (MES), Kyrgyz Hydromet (under MES), the State Registration Agency, and the FAO Representation in Kyrgyzstan. There will be also selected representatives of the civil society and private sector participating as observers in the PSC/National Stakeholders Platform. Representatives of participating communities/CLMGs will be observers of the PSC and will be invited to the meetings of their special interest and concern.

Management and implementation. The State Agency for Environment Protection and Forest Ecosystems (SAEPF) and the ARIS are the Operational Partners and key implementing agencies, jointly with the RKDF for the implementation of Output 3.1 (Credit lines for Agribusinesses) and FAO for technical assistance. In absence of RKDF ESM framework, the assessment shall be undertaken by FAO or the PMU, according to FAO standards. Based on the FAO clearance, the loans can be

disbursed to the borrowers without channelling the loan through FAO. The FAO ESS standards and criteria will apply in screening and approving the sub-projects for both RKDF and the involved partner banks. The implementing organization will coordinate under the project implementation unit, recruited by the project. The PIU will be responsible for overall management, supervision, guidance and technical support.

CS-FOR Project organization structure



CS-FOR will establish a Project Implementation Unit (PIU), which will be responsible for daily management, providing financial and procurement services, coordinate M&E of the project's activities, generate workplans, reports. The PIU will be composed of a Project Coordinator, in charge of the overall management of the project and coordination between all operating partners and project stakeholders, supported by a Financial Specialist, a Procurement Specialist, a M&E team leader, a secretary and a driver. The M&E and Planning team leader, under the overall supervision of the Project Coordinator, will be in charge of the overall planning, M&E and learning process of the project, and will coordinate a team of technical expert (part of the Expert Group) composed of a M&E specialist, a GIS specialist and a communication expert. The Safeguards Specialist will be located within the PIU. The PIU will also liaise with ARIS, MAFIM and with RKDF to ensure coordination of planning and in the achievement of the project's results, and with FAO for technical assistance and support in implementation.

CS-FOR will apply FAO's Monitoring and Evaluation (M&E) standard procedures and will be compliant with the GCF performance measurement framework. FAO will manage and coordinate reporting to the GCF according to agreed standards and procedures.

CS-FOR will ensure the Environmental and Social Management Framework is adhered to. In the context of this project, a Safeguards Specialist will be responsible for ensuring overall compliance and support safeguard performance monitoring during the life of the project (including all aspects of environmental and social safeguards, grievance redress, stakeholder engagement, reporting,

coordinating and supervising sub-project screening and related ESMP preparation and execution). An expert will be hired to prepare Environmental and Social Management Plans for sub-projects, as these become identified during the course of stakeholder engagement within the context of preparation of Integrated Natural Resource Management and Climate Resilience Plans (INRMCRPs). The project will also be supported by a Gender Specialist.

A workplan describing the implementation of the commitments outlined in this Environmental and Social Management Framework and timeframe is included in Annex 1 of this document. Staff costs for specialized experts, as part of the Expertise Group, are below:

Staff	**Unit (p/month)**	**Unit Cost (US$)**	**Total (US$)**
Safeguards Specialist	84	1,300	127,530
ESMP Consultant	72	1,575	113,400
Gender Specialist	84	1,300	127,530
Total			**318,060**

2.3 TARGET AREAS

The selection of project target areas was based on consultations with stakeholders during the project identification and preparation cycle. National consultations with the participation of wide range of stakeholders provided the analysis of current priorities in agricultural sector and livelihoods within climate change settings. The project idea, including structure, main interventions and target areas, was discussed and agreed with both government officials, representatives of the non-government sector and field specialists in Kyrgyzstan. Field visits and interviews with community members and community representatives helped developing a stronger problem analysis and understand problem-causes links.

Kyrgyzstan is divided into three administrative levels: (i) regions, or *oblasts,* and the municipalities of Bishkek and Osh (Bishkek City and Osh City); (ii) districts, or *rayons;* and (iii) *aiyl aimaks* (communities). The CS-FOR project will work in four target districts (*rayons*) in three regions (*oblasts)* which were selected based on their environmental, social and economic vulnerability. The core intervention area of the project, therefore, are four districts (*rayons*), in three regions (*oblasts*): Ak-Talaa *rayon* in Naryn *oblast*, Toguz-Toro and Suzak *rayons* in Jalalabad *oblast*, and Uzgen *rayon* in Osh *oblast*. These areas (Figure 1) are among the most vulnerable to the combined effects of direct and indirect impacts of climate change and have been selected on the basis of their environmental, social and economic vulnerability.

Figure 1: CS-FOR target areas

The target area is characterized by a high area of pastureland and forest areas (although at the national level, forest areas are only 5.6% of total area of the country, whereas pastures cover almost half of the country, or about 80% of agricultural land) - but also of pasture and forest degradation with significant impact potential for climate change interventions. Detailed maps of the four target districts have been developed in "The Kyrgyz Republic Baseline Atlas".

2.4 ELIGIBILITY CRITERIA FOR TARGET AREAS

Target areas were selected according to the following criteria:
a) exposure of ecosystems and communities to natural hazards triggered by climate change;
b) vulnerability of ecosystems and communities to climate change;
c) mitigation potential in terms of forest and pasture rehabilitation;
d) high dependency of communities from natural resource exploitation; and
e) socio-economic vulnerability of communities.

Based on the five criteria reported above, participants of the national engagement process, the NDA and FAO found that the areas with the higher monitorable exposure and vulnerability are the four contiguous districts of Ak-Talaa in Naryn region, Toguz-Toro and Suzak in Jalalabad region, and Uzgen in Osh region (Table 2).

Table 2: Most relevant elements for each of the five reported criteria

	Criteria				
District	**a**	**b**	**c**	**d**	**e**
Ak-Talaa	High Exposure to landslides, mudslides,	Fragile mountain ecosystems characterized by pastures and limited spur forests	Availability of land suitable for forest and pasture	Dependency of communities from natural resource exploitation is high (livestock)	53% of families located in the lowest income percentile

Suzak	avalanches, floods and flash floods	Relevant presence of pasture and of walnut forests currently exposed changes of main climatic variables	restoration investment	Dependency of communities from natural resource exploitation is high (livestock, NTFP, agriculture). Forests in Suzak district provide income to most of the local population	43% of families located in the lowest income percentile
Toguz-Toro		Fragile mountain ecosystems characterized by pastures and limited spruce forests		Dependency of communities from natural resource exploitation is high (livestock)	42% of families located in the lowest income percentile
Uzgen		Presence of pistachios and juniper forests currently decreasing due to climate change		Dependency of communities from natural resource exploitation is high (livestock, NTFP, agriculture). Forests in Uzgen district provide income to around 70% of local population	12% of families located in the lowest income percentile

Within the four districts, the project has identified priority areas where, according to the target area selection criteria, investments on forest and pasture restoration will have the highest potential impact:
a) potential, when restored, to reduce exposure of communities;
b) relevance of ecosystem services such as those provided by pastures and forests (i.e. protection, livelihood, water) benefitting communities;
c) potential sustainable use of products and resources for local communities;
d) availability of public land of at least 1,000 hectares; and
e) agreement of communities for reducing pressure on identified areas.

Based on this, the project will directly benefit an estimated 65,000 rural families in the target areas. Furthermore, by reducing the exposure of rural communities to natural disasters such as landslides, mudslides and floods, the project will also indirectly affect approximately 450,000 individuals in the core intervention areas, who will benefit from the significant increase of forest coverage and rangeland rehabilitation in areas of high risks of hazards.

In addition, the project will benefit the following categories of people:

i. Institutions at national level: State Agency for Environmental Protection and Forestry (SAEPF), Ministry of Agriculture, Food Industry and Melioration (MAFIM), Ministry of Emergency Situations (MES), Agency for Local Self Government and Interethnic Relations (ALSGIR), Climate Finance Center (CFC), Ministry of Economy (ME), Ministry of Culture, Information and Tourism (MoCIT), various research and educational institutions and NGOs.
ii. Institutions at local level: Leskhozes (Forest Enterprises), State National Parks, self-government bodies (*ayil okmutu* and *aiyl kenesh*), women's councils, Pasture Users' Unions and other natural resource users groups.
iii. Agribusinesses and their raw material suppliers participating in the project supported value chains.

III. ENVIRONMENTAL AND SOCIOECONOMIC BASELINE CONDITIONS

3.1 ENVIRONMENTAL ASPECTS

Ecosystems

There are over 20 ecosystems in Kyrgyzstan, ranging from glaciers and snow fields to deserts, with rangelands and forests covering almost half the country's territory. Forest cover, however, is relatively small, making up 5.6% of the total land area. The climate of Kyrgyzstan is continental with hot summers and cold winters, although conditions vary widely - from a low dry continental climate in the mountain slopes to a "polar" climate in the highly elevated areas of the Tien Shan and Pamir ranges.

The diversity of the natural-climatic conditions and landscapes of Kyrgyzstan is categorized into four climatic zones: 1) Valley – foothill zone (up to 900–1200m), characterized by hot summers, and moderately cool and snowless winters with low precipitation; 2) Mid-mountain zone (from 900–1200m to 2000–2200m) with a typical moderate climate with warm, sufficiently humid summers and moderate cold, snowy winters; 3) High mountain zone (from 2000–2200 to 3000–3500 m) which varies between cool summers and cold, sometimes snowy winters. July temperatures here are 11–16°C. Winter is long (November-March), with temperatures ranging from -10°C to -3°C in the colder months; and 4) Nival zone (from 3500m and higher) characterized by a harsh and very cold climate. It is a zone of snow fields, rocks, glaciers and humidity accumulation belt. Even at the lower reaches of this zone, average July temperatures do not exceed 4–7°C; in January, they go down to -19°C to -22°C[2].

Agricultural land

Over 90% of Kyrgyzstan is made of mountains. Arable agriculture is only possible on about 5-7% of the land with 75% of it depending on irrigation; an estimated 65-82% is classified as pasture. The main crops grown are wheat, barley, maize (for grain and silage), potatoes, melons, oilseed crops and different types of vegetables. Fodder crops are also grown, especially lucerne (on the better irrigated land) and sainfoin (on the less well irrigated hill slopes)[3]. Approximately 64% of the Kyrgyz population relies on livestock for their primary source of income, and pastures are the basis for livestock breeding; pasture management is a main concern for the country.

According to the Kyrgyz State Design Institute of Land Management "Kyrgyzgiprozem", large areas of agricultural land are in poor condition, and are affected by land degradation (an estimated 50-80%). This includes erosion, salinization and alkalization, water logging of arable soils, trampling and contamination of pasture vegetation (mainly unpalatable plants) and organic soil carbon content that has declined from 3% to 1.5%. – which, cumulatively, lead to a reduction of soil fertility and soil depletion. Some estimates by the Land Registry place the total area of land subject to erosion at 6.4 million ha, 700,000 has of which is arable land. 11.2 million ha of land (of which 1.3 million irrigated), are prone to wind and water erosion; 1.2 million ha (of which 146,600 irrigated), are saline; 480,200 (of which 98,800 irrigated) are alkalinized[4]. Inappropriate tillage practices have eroded soil and led to poor soil fertility on an estimated 770,000 ha of arable land. These factors have damaged soil ecosystem services (chemical, biological, hydrological) and led to reduced ecosystem functions which are critical for resilient agriculture, especially in light of climate change.

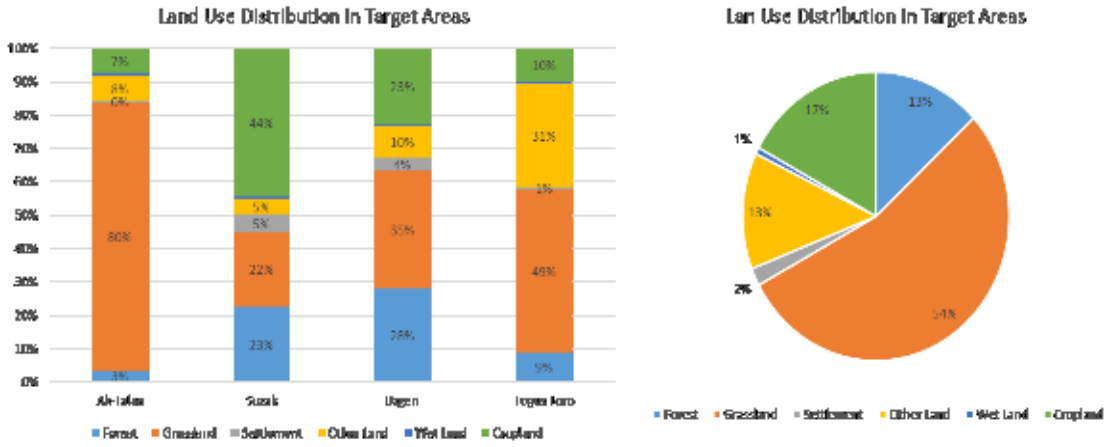
A summary of land use distribution is in Figure 2, which shows that the highest percentage of land in the four districts is under grassland (54%) followed by cropland (17%) and forests (13%). Described availability of resources has *de facto* shaped livelihood strategies of communities that are heavily dependent on forest and pasture ecosystems, which is also why project activities are so relevant in these areas.

[2] The Ministry of Agriculture and Melioration of the Kyrgyz Republic. 2014. The National Action Plan (NAP) and the Activity Frameworks for Implementing the UNCCD in the Kyrgyz Republic for 2015-2020.

[3] Fitzherbert. Country Pasture/Forage Resource Profiles – Kyrgyzstan. http://www.fao.org/ag/agp/agpc/doc/counprof/kyrgi.htm

[4] The Ministry of Agriculture and Melioration of the Kyrgyz Republic. 2014. The National Action Plan (NAP) and the Activity Frameworks for Implementing the UNCCD in the Kyrgyz Republic for 2015-2020.

Figure 2: Land use distribution in target areas (FAO 2016)[5]



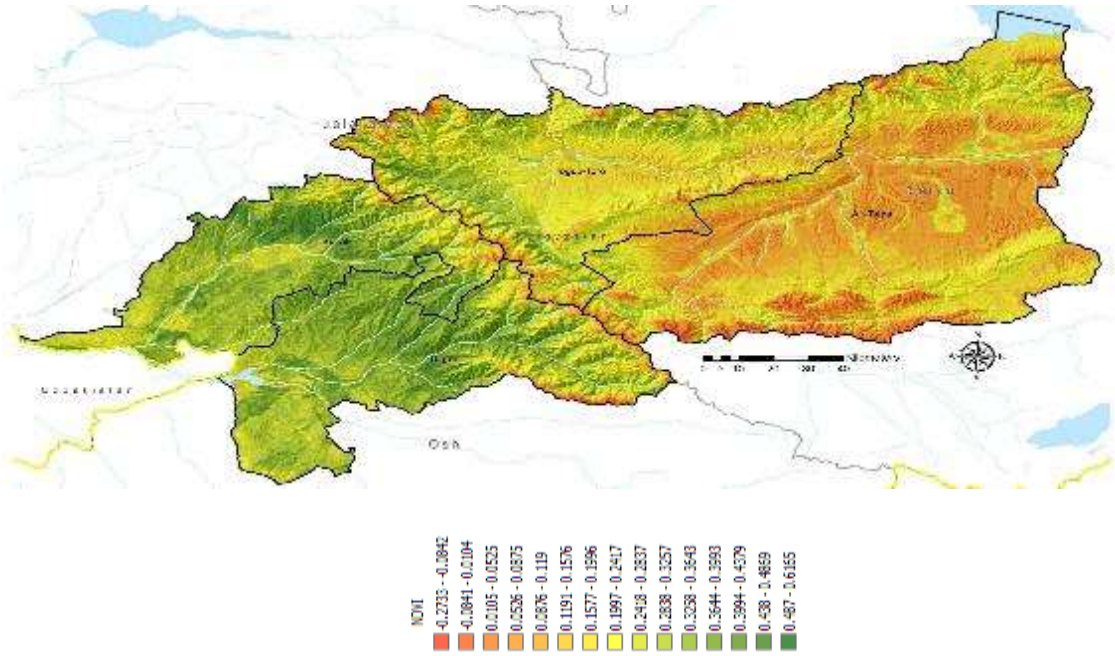
Vegetation

The predominant vegetation types found in the mountains are desert, semi-desert, and steppe on all the lower slopes and foothills and in some of the outlying ranges and major basins. Patches of riverine woodland exist in a few, low altitude places. At higher altitudes, steppe communities, dominated by various species of grasses and herbs occur, while shrub communities are widespread in the lower steppe zone. Spruce forests, the only coniferous forest type, occur on the moist northern slopes of the Tien Shan, while open juniper or archa forest occurs widely between 900 and 2,800 meters above sea level. Subalpine and alpine meadows occur in the western part of the mountains, from 2,000 to 4,000 meters, and above. At the highest and coldest elevations, there is limited vegetation cover, with cushion plants, snow-patch plants and tundra-like vegetation.

The Normalized Difference Vegetation Index (NDVI) provides an alternative measure of vegetation amount and condition. The map in Figure 3 shows that Suzak and Uzgen are particularly "green" compared to Toguz-Toro and especially Ak-Talaa.

[5] Data on land use originated from FAO Collect Earth survey executed in Kyrgyzstan in 2014 and 2015.

Figure 3: Normalized Difference Variation Index (NDVI) distribution in target areas



Forests

In the Kyrgyz Republic, almost all forests are state owned. As of January 1, 2010, the afforested area (forests and shrubs) of the Kyrgyz Republic was 1,123,200 hectares, or 5.6% of total area of the country. According to the Forest Code of the Kyrgyz Republic, forest lands include: forested land, including land covered with forest vegetation as well as scattered forest stands, plantations, nursery gardens, glades, burned-out forest, open woodlands and vacant plots; and non-forest land but which is part of the forest ecosystem, including agricultural and other land plots as well as lands where forest were removed for construction/utility purposes[6]. About 90% of all forests grow at altitudes between 900 and 2500 m above sea level. Although forests form a relatively small proportion of the country's total territory, they are highly diverse - main mountain forest types include spruce, juniper, walnut and floodplain/riverside forests.

Over one million people live in or near forests, and rely on forest products, such as berries, fruits, nuts, mushrooms, medicinal plants, timber and firewood, for a number of uses including food, heating and cooking, construction materials, and sources of income. Riparian forests play an important regulation function along the shores of rivers and lakes. Over the last thirty years, however, it was estimated that forest cover has been reduced by at least 50%, threatened by logging, forest clearing to create pasture and crop land, and intensive livestock grazing. Almost one million ha of forestland are used for grazing livestock. The Kyrgyz Forest Service stated a long-term objective of increasing forest cover to 6% by 2025-2030. Table 3 describes forest degradation classification in the target area.

Table 3: Land Productivity Dynamics (LPD) – total ha classification of forests in target area (based on MODIS NDVI Time Series 2001-2017)

Degradation class	Ak-Talaa	Suzak	Toguz-Toro	Uzgen	Grand Total (%)
Extremely degraded	14.8%	27.3%	26.7%	22.2%	24.7%

[6] http://www.fao.org/forestry/30655-067a616376e5bf5ebac056446ec010d1f.pdf

Moderately degraded	4.3%	15.3%	17.2%	16.6%	15.5%
Not degraded	80.8%	57.5%	56.2%	61.2%	59.8%
unclassified	0.0%	0.0%	0.0%	0.0%	0.0%
Grand Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Pastures

Pastures in Kyrgyzstan cover almost half of the country, or about 80% of agricultural land. An additional 12% of the country is classified as forestland without forest cover, which means they are largely shrub land utilized as grazing land. Most of the rangelands are located at altitudes between 1,000 and 3,500 meters, in intermountain valleys and mountain slopes, with about one-quarter found at elevations greater than 3,500 meters. Pasturelands play a key role in the country's economy, society and culture.

Traditionally, Kyrgyzstan was a pastoralist society which practiced transhumance. This way of life is still integral to the culture, and although a sedentary lifestyle and collectivized livestock production was introduced during the Soviet period, transhumance is still practiced. Livestock rearing systems for sheep and goats, and for a major proportion of cattle, include seasonal transhumance to intermediate and high-mountain pastures. Migration begins in April/May and finishes in September/October. Pasture resources are considered for summer (higher altitudes; further away from inhabited areas), spring/autumn (middle altitudes), and winter (closest to inhabited areas).

Table 4: Pasture resources in the Kyrgyz Republic[7]

Type of pasture	Altitude	% Total rangeland area
Summer pastures	2500 to 3500	43%
Spring-Autumn pastures	1500 to 2500	30%
Winter pastures	Various	25%

Pasture degradation is one of the more important environmental problems throughout Central Asia, affecting a strategic resource for economic development, food security and environmental health. Pastures in Kyrgyzstan are degraded to varying degrees. Degradation is responsible for a decrease in species diversity and ecological flexibility to respond to climate change; severe erosion in places; and declines in forage production. Species composition of pastures adjusts to both wet and dry years and along the elevation gradient. High species diversity facilitates adaptation to livestock grazing pressure and ensures ecosystem resilience to climate change. Table 5 describes pasture degradation classification in the target area.

Table 5: Land Productivity Dynamics (LPD) – total ha classification of pastures in target area (based on MODIS NDVI Time Series 2001/2017)

Degradation class	Ak-Talaa	Suzak	Toguz-Toro	Uzgen	Grand Total (%)
Extremely degraded	5.2%	27.0%	16.6%	24.4%	15.5%
Moderately degraded	16.9%	20.2%	15.7%	16.1%	17.0%
Not degraded	76.3%	52.9%	67.6%	58.8%	66.8%
unclassified	1.6%	0.0%	0.1%	0.7%	0.8%
	100.0%	**100.0%**	**100.0%**	**100.0%**	**100.0%**

[7] IFAD. Livestock and Market Development Programme II. Design Completion Report. 2013.

According to FAO (2000), pasture productivity declined steadily since the 1960s and by 1993 was reported to be about 300 kg/ha of dry matter, due to overstocking and poor grazing management. Productivity of the summer pastures declined from 640 kg/ha to 410 kg/ha and the spring and autumn pastures from 470 kg/ha to 270 kg/ha over the thirty years preceding 1993. The productivity of winter pastures decreased even more dramatically from 300 kg/ha to less than 100 kg/ha and encroachment of woody and unpalatable weeds affected about 50,000 km^2. The same FAO study estimated the maximum carrying capacity of Kyrgyzstan's grazing land at 7,000,000 sheep equivalents (accepted ratio: one horse = 6 sheep: one cow or yak = 5 sheep; one goat = 0.7 sheep).

Water

The Kyrgyz Republic holds 30% of the total water resources of Central Asia, mainly stocked in rivers, glaciers, and snow massifs, but also in lakes and groundwater. The world's second-largest high-mountain lake, Issyk-Kul, is in Kyrgyzstan. Kyrgyzstan can be divided into two hydrological zones: (i) the flow generation zone (mountains), covering 171,800 km^2, (or 87% of the territory); and (ii) the flow dissipation zone of 26,700 km2 (or 13% of the territory). The annual average volume of water totals 2,438 km^3 including 50 km^3 of surface river runoff, 13 km^3 of potential reserves of ground water, 1,745 km^3 of lake water and 650 km^3 of glaciers. Most of the rivers of the country have a snow-and glacier-type of alimentation; increasing temperatures (which have been observed over the last few years) will increase their flow. During the period from 1973 to 2000 the total river flow increased by 6.3% compared to the preceding period, and in the next 20 years a further increase in flow of 10% has been forecasted based on worked-out models. In the longer term, largely due to the rapid melting of glaciers, while the country will likely have enough water for its own needs in the future, it may not be able to meet demand in its role as a critical supplier to the Central Asia region.

The depletion of water resources could lead to an increase of arid and semi-arid desert areas from current 15% to 23-49% in 2100. This entails the danger of future, greater shortages and potential disputes over water resources in Central Asia, which might have a serious impact on the regional geopolitical balance. The projected change of annual runoff is 0.261; projected change of annual groundwater recharge is 0.354[8]. Water shortages occur during the growing season and are especially problematic in the southern region (Batken, Jalal-Abad and Osh provinces). This limited water supply can cause crop and small harvest losses (decrease in yields of around 15-20%[9]), especially in home gardens and household plots, which could lead to conflict over water use.

Protected Areas

Kyrgyzstan has a relatively well-established system of protected areas with 87 Protected Areas, falling under 4 IUCN (International Union for Conservation of Nature) categories, and making up 6,7% of the country's territory. According to the Law on Specially Protected Natural Territories of the Kyrgyz Republic (No. 18; May 2011), these areas fall under the following categories: State Natural Reserves; State Natural Parks; State Preserves; Sate Natural Monuments; State Botanical, Dendrological Gardens, Zoological Parks; Biosphere Territories or Biological Reserves; and Transboundary Protected Areas of International Importance[10]. Chapter 3 of this same Law describes the zone allocation for State Natural Parks (SNPs), which include: (i) the protected regime; (ii) ecological stabilization; (iii) tourist and recreational activities; and (iv) limited economic activity. SNPs "…are exclusively state property and are the national property of the Kyrgyz Republic" (Article 6).

Activities prohibited in the zone of "ecological stabilization" include: (i) actions involving changes in the hydrological regime; (ii) construction and operation of production and other facilities not related to the activities of state natural parks; (iii) geological exploration and mining; (iii) logging in the order

[8] https://gain-new.crc.nd.edu/country/kyrgyzstan
[9] *Ibid.*
[10] Action Plan for Implementing the Programme of Work on Protected Areas of the Convention on Biological Diversity. Submitted by the Kyrgyz Republic to the Secretariat of the Convention on Biological Diversity on 2012.06.08.

of the main use; (iv) introduction (acclimatization) of new species of wild animals and plants; and (v) other activities that result in a decrease in the natural, scientific, cultural and aesthetic significance of state natural parks. Hence, the Law established that in the zone of "ecological stabilization", any economic and recreational activities are prohibited, with the exception of regulated ecological tourism and *the carrying out of measures for the restoration of disturbed natural complexes and objects*, including for forest enrichment planting with native species.

There are two State Natural Parks (SNPs) in the target areas -these are: (i) the State National Park Saimaluu-Tash; and (ii) Kara-Shoro National Park.

Saimaluu-Tash State National Park: In order to improve the overall ecological situation in the Kyrgyz Republic, the preservation of unique natural areas of the Saimaluu-Tash SNP were organized to cover 32,007.2 hectares in Toguz-Toro district of Jalal-Abad region (Resolution of the Government of the Kyrgyz Republic No. 249 of May 25, 2001). The area of the protected regime covers 9,221.8 ha (28.8% of the total area of the Natural Park), a recreational zone 4,540.9 ha (14.2%), and a natural regeneration zone 18,244.5 ha (57.0%). There are no settlements in the SNP, but there are settlements in the adjacent zone to the park where about 3,000 people live. The main economic activity is animal husbandry.

The forest lands of the Saimaluu-Tash SNP cover 3,695.9 hectares (11.5% of area). Forest area covered by natural forest is 3,314.6 ha (10.4%). Non-forest areas are dominated by pastures (15,236.6 hectares, or 47.6%) and other lands (11,769.4 hectares, or 36.8%) which are rocks, pebbles, steep slopes, etc. The natural regeneration of the forest in the recreational zone is weak: only 11.8 hectares were in good condition, and 4,226.1 ha are poorly.

Kara-Shoro State National Park: Established in 1996, Kara Shoro SNP is home to spruce forests and a natural spring of mineral waters. The flora in the SNP includes approximately 770 species of woody and herbaceous vegetation and 53 species medicinal plants. Fauna includes 31 mammal, over 50 species of birds, 2 species of fish, and 431 species of reptiles. Kara-Shoro Park Administration indicated need to plant individual trees or lines on roadsides in the recreational zone. The project can both reforest and enrichment plant on buffer zones with native species without any legal issues.

3.2 CLIMATE CHANGE

The geography and topography of Kyrgyzstan make it one of the most hazard-prone countries in Central Asia, and climate-induced disasters are already occurring. Hazards such as drought, land and mudslides, avalanches, squalls, downpours, icing, frosts, breakthrough of glacial lakes, floods, river erosion and earthquakes are all common occurrences in Kyrgyzstan. The vast majority of the population lives in the valleys and foothills of the mountains, where vulnerability to these events is particularly high. On average, natural disasters are responsible for US$30-35 million average annual costs in damages and economic losses that represent 1-1.5% of the country's GDP[11]. Limited state and local government resources available for disaster reduction and response exacerbate the population's high vulnerability to natural disasters.

The Ministry of Emergency Situations of the Kyrgyz Republic reported that the number of floods, mudflows, landslides and avalanches has significantly increased during the last decade. The number of emergency situations in 2016 was higher than average, and natural disasters caused a total of 1.6 billion KGS of economic damage.[12] Osh and Jalalabad regions are most prone to natural disasters, with

[11] GFDRR Disaster Risk Management Programmes for Priority Countries, Kyrgyz Republic case study.
[12] Ministry of Emergency of the Kyrgyz Republic data

mudslides and landslides occurring along Kok-Art, Changet, It-Agar, Padysha-Ata, and Yassy watersheds.

The biggest number of landslides and mudflows in 2016 was registered in Osh (152 landslides, 425 mudflows) and Jalalabad oblasts (114 landslides, 261 mudflows), while in other parts of the country the number of landslides were no more than 25 and the number of mudflows no more than 84.[13] One of the key reasons for these disasters is the degradation of vegetation along mountain slopes, caused by heavy anthropogenic pressure from livestock overgrazing, erosion of river banks, and unsustainable harvesting of timber and fuelwood.

The UN Framework Convention on Climate Change (UNFCCC) projects that grassland productivity will decline in the semi-arid and arid regions of Asia by as much as 40-90% for an increase in temperature of 2-3°C combined with reduced summer precipitation. The Third National Communication (TNC) of the Kyrgyz Republic under the UN Framework Convention on Climate Change was issued to the UNFCCC in 2017[14]; according to this most recent submission, and in line with the first and second national communications, an increase in the average annual temperature is observed in all climatic zones and regions across Kyrgyzstan. A similar increase in average annual temperatures has also been observed at all altitudes. Over the last century, the air temperature of the territory of the Kyrgyz Republic increased by 0.8ºC. With regards to precipitation, estimates foresee variable trends - local increases and decreases - in the different parts of the country in the short term, with a general, sharp decrease after 2030-2040.

Target Areas. The four target districts are part of two climatic zones: the South-western, which includes margins of the broad Fergana valley, the Chatkal and Alai valleys and the adjacent mountain ranges. Relative to other climatic zones, this is the warmest and most humid with maximum rainfall in winter; and the Inner Tien-Shan, which is a closed climatic zone bounded by adjacent mountain ranges. It is characterized by low precipitation, and a marked continental climate with distinctive local contrasts.

Precipitation: Data from national meteorological stations and remote sensing analysis clearly a tendency in reduction in rainfall reduction on the west side of the four Rayons, fully involving Uzgen and Suzak, with a hot spot in North Suzak (reduction up to 8 mm/year and more). The East part of target areas shows a tendency towards increased rainfall, in the order of 1 to 10 mm/year. With regards to snow cover, frequency trends show a slight reduction of days with snow cover above 2,500 m and a general increase of days with snow cover below that altitude.

Temperature: Recorded trends in absolute MAX temperatures (°C) per year based on historical (1989-2016) time series show a variation in the order of a fraction of a degree distributed from West (increase) to East (stable or decrease). Considering 27 years of observations, the total change in the period is from 1°C decrease to 1.5°C increase or more. The variation is almost only in increasing values from West to East in the order of a fraction of a degree, with slightly higher increases in the Western Rayons and the Southern area of Ak-Talaa.

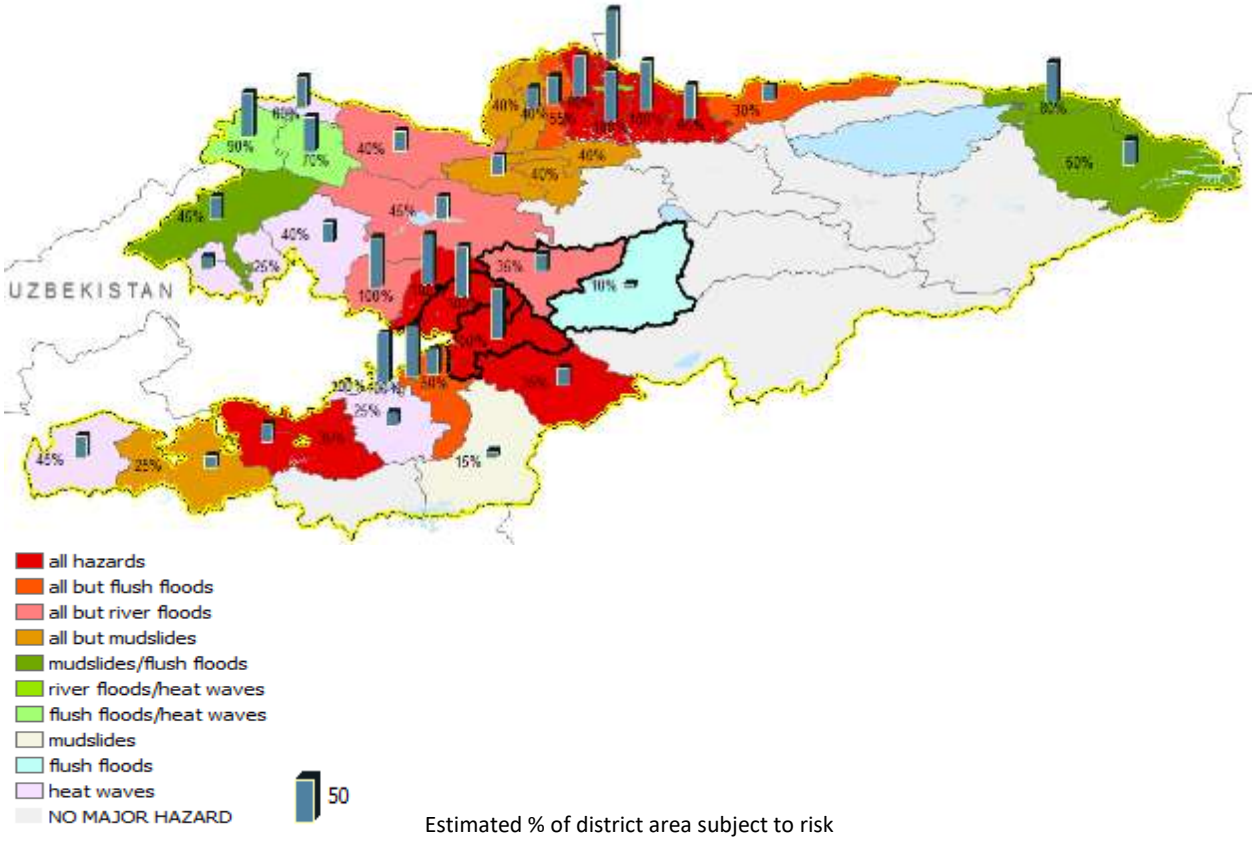
Snow Cover Frequency: Snow cover frequency in target areas appears to be contrary to national trends where from 2002 to 2016 the percentage of days covered by snow appears to be reduced by about 17%. Target districts, with the exception of Ak-Talaa shows increasing trends.

Hazards

[13]Monitoring and forecasting of disasters and hazards on the territory of Kyrgyzstan. Ministry of Emergency of the Kyrgyz Republic, 2017
[14] It should be noted that the TNC does not use most recent data – only up to 2010. Presumably, this is because more recent data was unavailable.

The frequency and severity of floods (and associated river bank erosion) and droughts are projected to increase as a result of increasing temperatures and reduction of snowfall. In particular, river floods and water logging in spring, heat stress in summer, mudslides and flash floods and snow melting in summer will increasingly be experienced; the intensity of rain and snowfall is expected to increase, together with the frequency of heat waves. Maximum and minimum temperatures across Kyrgyzstan are expected to increase gradually over the course of this century. Recurrent extreme weather events and marked changes in microclimate are already being observed.

Figure 4: Climate change-related hazards (national level)



Future hazards related to climate change are projected to include:

- River floods and water logging in spring will mainly have an impact at lower altitudes. Rainfall will be more intense, affecting areas more susceptible to flooding. Infrastructures would be more frequently affected, pastures less accessible and livestock could suffer more stress.
- Heat stress in summer. More probable droughts will reduce the availability of water needed to face heat stress. Furthermore, changes in climate can lead to an increased outbreak of animal diseases.
- Mudslides. At medium altitudes (and to a lesser degree also at higher altitudes) rainfall will be more intense in spring, increasing the risk of mudslides that could affect the access of livestock to spring pastures.
- Flash floods and snow melting in summer are due to the increase in temperatures together with the increase in winter, spring and autumn rainfall (snow at higher altitudes). Livelihoods will be more affected by these hazards because there will be less access to pastures, damages in infrastructures and so forth. Higher altitudes (and in some degree also medium) are more susceptible to this hazard.

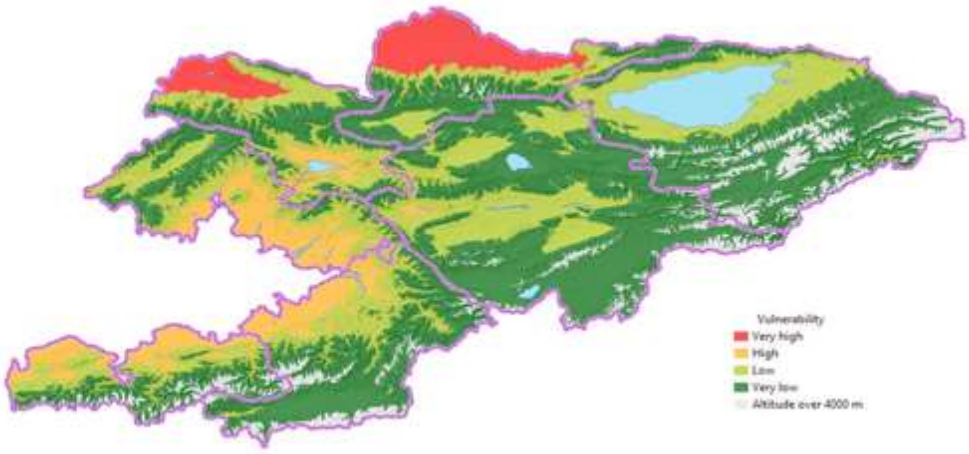
Vulnerability

Forests and pastures - already under pressure due to human-driven activities - are among the most sensitive resources being impacted by climate change. Forest are overexploited for logging and fuel, while pastures are overgrazed in the lower/middle altitudes due to limited access to high altitude summer pastures. Reduced productivity of low altitude pastures and decreased resilience of forest ecosystem are increasing the vulnerability of communities and negatively impacting rural livelihoods; changes in weather impact the livestock sector (and hence livelihoods), mainly in terms of pasture health and availability as well as animal health.

Areas most vulnerable to climate change (Figure 5) are:

- *Water*. The combination of decreased rainfall and the significant reduction of glaciers will have a negative impact on water availability and river-flow, with changes in intra-annual distribution. The depletion of water resources might lead to an increase of arid and semi-arid desert areas from current 15% to 23-49% in 2100. This entails the danger of future, greater shortages and potential disputes over water resources in Central Asia, which might have a serious impact on the regional geopolitical balance.
- *Agriculture and livestock*. Temperature changes will extend the areas favourable to certain crops, such as cotton and grapes and will require overall shifts in the actual distribution of crops. Major events that threaten to reduce agriculture productivity include extended summer drought, hailstorms, windstorms, late spring and early fall frosts, and winter thaws. Decreased summer precipitation may significantly reduce the productivity of highland pastures in several parts of the country.
- *Extreme climate events.* The overall probability of landslides, mudflows, avalanches, high waters and breaches of high-mountain lakes will locally increase or decrease in different parts of the country, with a sharper increase in the central part of the country.

Figure 5: Map of levels of vulnerability to climate change in Kyrgyzstan[15]



An analysis of future climate conditions in Kyrgyzstan conducted for the formulation of the IFAD Livestock and Market Development Programme II (LMDP II), based on different climate change scenarios, found that overall, there would be shorter winters and earlier springs – this will have an impact on pastureland which will be more productive, but at the same time, these resources could be more intensively exploited by the livestock sector. At the first level of altitude (below 1500 masl) the main factor regarding vulnerability will be heat stress in summer; average maximum temperatures will increase by 2.5°C. Middle altitudes (1500-2500masl) are considered of low vulnerability because increases in maximum temperatures in summer will not reach 30°C, so the vegetative activity will not be negatively affected, and in general livestock will not suffer heat stress. Milder winters will benefit pastures and livestock. Rainfall could increase in spring, autumn and winter, and remain stable in summer. With these changes, pastures and livestock will have better conditions, despite the increasing likelihood of water deficits in summer at certain locations (more detailed water balance studies are required). The most important hazards are river floods, mudslides and water logging in spring, and snow melting in summer. Finally, areas at high altitude (above 2500masl) are considered as very low vulnerability, as general increases in temperatures will benefit pastures and livestock, especially in summer and the likelihood of relevant droughts will probably be low even in summer. Flash floods and snow melting in summer are the main hazards at this altitude.

Emissions

In the Kyrgyz Republic, the TNC used data from 1990 (just before independence) to compare with greenhouse gas (GHG) emissions in 2010[16]. In 2010, total GHG emissions in the Kyrgyz Republic were only 45.4% of 1990 emissions. Also in 2010, the contribution of the country to total global GHG emissions from fossil fuel combustion was 0.023%, while the population was 0.079% of the world's total population – thus, the per capita GHG emissions was less than one-third of the world average (about 2.2 tonnes CO2-eqv per capita in 2010). The emission reduction by sector in 2010 (as compared with 1990 levels) was: energy (-66.8%); industrial processes (-41.8%); agriculture (-23.1%); and waste (-14.6%)[17]. While agriculture is generally a major emitter of GHGs, the historical trends of agricultural growth (or decrease) in Kyrgyzstan are such that today, emissions are still relatively low. Having said that, the planned economic development of Kyrgyzstan is expected to lead to a sharp increase in greenhouse gases emissions.

[15] Source: IFAD Livestock and Market Development Programme II (LMDP II). Design Completion Report. WP 6. Climate change impact on pastures and livestock systems – summary report.

[16] It should be noted that the TNC does not use most recent data – only up to 2010. Presumably, this is because more recent data was unavailable.

[17] The Kyrgyz Republic Intended Nationally Determined Contribution (UNFCCC).

One of the main factors determining the emissions from the agriculture sector is the number of livestock and poultry. Since 1995, there has been a consistent increase in numbers of all categories of livestock except for pigs. The exceptional growth of poultry is notable, with a sharp rise seen in 1997. In terms of methane emissions from the Enteric Fermentation and Manure Storage Systems categories, in 2010 there was a significant increase in emissions from dairy cattle and a decrease in those of sheep and goats, as compared to 1990. Methane emissions increased from 56.6% in 1990 to 63.8% in 2010, while nitrogen oxides emissions also decreased, from 43.4% in 1990 to 36.2% in 2010[18].

Following Bishkek, the next largest contributors of GHG emissions are the Chui, Djalal-Abad, Osh, Batken, Issyk-Kul, Naryn oblasts, Osh city and the Talas oblast. The significant contribution of the agricultural sector is characteristic for all oblasts – of the three target regions, agriculture contributes more than other sectors.

In the agriculture sector, the highest GHG emissions in the sector are accounted for the Osh oblast (- 932.4 Gg CO2 -eq. or 19.6% of total emissions), followed by the Batken oblast - 917.5 Gg CO2 -eq. or 19.6%), the Djalal-Abad oblast (- 893.7 Gg CO2 -eq. or 18.8%), the Issyk-Kul oblast (- 595.0 Gg CO2 -eq. or 12.5%), the Chui oblast (- 574.5 Gg CO2 -eq. or 12.1%), the Naryn oblast (- 522.6 Gg CO2 -eq. or 11.0%) and the Talas oblast (- 288.1 Gg CO2 -eq. or 6.1%). The contributions of Bishkek and Osh cities into the total GHG emissions of the sector are insignificant[19].

3.3 SOCIO-ECONOMIC ASPECTS

National Context. Kyrgyzstan was a part of the Soviet Union until 1991 and maintains close ties with Russia and other former Soviet countries. Kyrgyzstan joined the Eurasian Economic Union in August 2015; Kazakhstan and Russia are its major markets for agricultural products and destination for labour migrants. The Kyrgyz Republic is a lower-middle-income country with the GDP per capita of US$1,073 in 2016[20]. The economy relies on worker remittances (equivalent to 30% of GDP in 2011-2015) and a gold mine, Kumtor (about 10% of GDP), and hence highly vulnerable to external shocks.

Poverty level is high with 32.1% of the population living below minimum subsistence level in 2015 and 25.4% in 2016, according to the National Statistical Committee (NSC) data. Another 50% of the population were living below US$5/day in 2015. About three quarters of the poor live in rural settlements. Poverty is the highest in remote mountainous areas where almost all households are poor with average per-capita income of approximately US$82 in 2015, which is equal to minimum level for subsistence established by the Government and 1.3 times lower than the average in the valleys. There were 49,000 people (0.8%) living in extreme poverty in 2016, of whom 85.4% were rural residents. Poverty rates vary across the regions with Naryn recording the highest in 2016 (37.8%). However, the absolute number of the poor is high in Jalalabad and Osh, which accounts for 22% and 20% of the total population, respectively.

In 2015 the value of Kyrgyz Republic's Human Development Index (HDI) was 0.664, ranking the country at 120 out of 188 countries in total[21]. The score is above the average of countries in the medium human development group (0.631), but below the regional average of Europe and Central Asia (0.756). The rise of HDI values was attributable to the steady improvements of social indicators. Between 1990 and 2015 the country's life expectancy at birth increased by 4.5 years, mean years of schooling increased by 2.2 years and expected years of schooling increased by 1.2 years.

[18] *Ibid.*

[19] Government of Kyrgyzstan. 2016. Third National Communication of the Kyrgyz Republic under the UN Framework Convention on Climate Change.

[20] World Bank, *Country Snapshot: An overview of the World Bank's work in the Kyrgyz Republic*, April 2017

[21] UNDP, *Briefing note for countries on the 2016 Human Development Report: Kyrgyzstan*, 2016.

Malnutrition remains a problem as evidenced by the fact that 13 percent of children under five suffer from stunting[22]. Micronutrient deficiencies, including vitamin and minerals, are also evident as 43% of children under five and 39% of women of reproductive age are affected by anemia. According to the World Food Programme (WFP), two out of three food insecure people live in remote valleys, 'where high altitudes, harsh winters and hot, dry summers limit livelihoods potential'[23]. Food insecurity is exacerbated by climate-related shocks, including floods and mudslides, which affect resilience of families and communities.

The Kyrgyz Republic ranked 90 out of 159 countries on Gender Inequality Index (GII). GII reflects gender-based inequalities in three dimensions (reproductive health, empowerment, and economic activity), and the higher the GII value the more unequal the country from the gender point of view. Kyrgyzstan's gender inequality, with GII score of 0.394, is higher than neighbouring Tajikistan (0.322) and Uzbekistan (0.287). While Kyrgyzstan fares well in terms of political representation and education attainment, it lags behind the two countries on maternal mortality ratio and adolescent birth rate.

Livelihoods. Agriculture is the main source of livelihood in rural areas with very limited non-farm opportunities. At the same time agricultural productivity is low: two-thirds of the population is employed in the sector but the share of agriculture in nominal GDP accounted for only 13.2% in 2016. About half of agricultural output is accounted by livestock production, a role increasing every year as reflected in the growing number of animals. The number of cattle and sheep has increased by 12% just within the last four years.

The economic significance of poor rural households' livestock production is significant. In 2015, peasant farms produced 49.5% and households produced 37.8% of total livestock output. Both households and peasant farms kept comparable proportions of cattle and dairy cows; peasant farms raised slightly more sheep and goats than households (56% compared to 43.6%); and households raised more poultry than peasant farms (46.8% compared to 37.8%). Peasant farms and households produce approximately 1.5 million tons of milk annually with Gross Agricultural Output of meat and milk being nearly equivalent (peasant farms produce 50% of cattle live weight and 43% of raw milk; households produce 48% of cattle live weight and 45% of raw milk).

Having said that, livestock productivity is still far below its potential because of low levels of investment in livestock productivity, pastureland degradation, the prevalence of major livestock diseases and parasites, and reduced veterinary services. Pasture conditions deteriorated during the Soviet period with the intensive use of pastures, and in the recent past, with village and close-by (winter) pastures being severely overused and degraded, while the more remote summer pastures have been underutilized as a result of poor access often caused by deteriorating infrastructure. Average degradation of pastures has reached 49% with over 70% of winter pasture areas being degraded, according to MAFIM data. The World Bank (WB) estimates that milk production could increase by 70% and mutton and beef production could increase by 50%, but animal product commercialization rates remain low: 64% for live animals at slaughter age, 52% for milk, and 34% for wool.

Livestock fodder, forage and feed grain production has been increasing, in line with the growth in number of livestock, but is still below potential. Feed grain requirements are high, at approximately 0.75 million tons/year, but households have little or no land, so they do not produce fodder or forage crops and peasant farmers do not produce fodder in sufficient quantity or quality. As a result, feed requirements are met through natural grazing, or though feed grain imports.

[22] Data from WHO/World Bank Group Joint Child Malnutrition Estimates 2017, cited in *Global Nutrition Report, 2017 Nutrition Country Profile: Kyrgyzstan*, 2017.
[23] WFP Kyrgyzstan (http://www1.wfp.org/countries/kyrgyzstan), accessed in February 2018.

Furthermore, over one million people live in or near forests, and rely on forest products such as berries, fruits, nuts, mushrooms, medicinal plants, timber and firewood, for a number of uses including food, heating and cooking, construction materials, and sources of income. Riparian forests play an important regulation function along the shores of rivers and lakes. Over the last thirty years, however, it was estimated that forest cover has been reduced by at least 50%, threatened by logging, forest clearing to create pasture and crop land, and intensive livestock grazing. Almost one million ha of forestland are used for grazing livestock. The Kyrgyz Forest Service stated a long-term objective of increasing forest cover to 6% by 2025-2030.

Target Areas. Communities in the four districts are distributed in 261 villages organized in 50 *ayil aimaks (*AA, or Municipalities). *Ayil aymaks* are local self-government units, comprising the administrative body (*ayil okmotu*) and the council of elected members (*ayil kenesh*). Each rural municipality has several villages. Table 6 reports the distribution of target population in target areas.

Table 6: Population and numbers of rural municipalities and villages in target area (2016)

District	Region	No of rural municipalities (Aiyl Aymak)	No of villages	Total rural population (persons)	No of rural households
Ak-Talaa	Naryn	13	18	38,008	8,274
Toguz-Toro	Jalal-Abad	5	13	24,942	5,456
Suzak	Jalal-Abad	13	125	272,096	51,713
Uzgen	Osh	19	102	205,517	40,1431/

Source: NSC data (2017)
Note: 1/ extrapolated by the average of the other three, where data on household numbers is available.

The country's largest ethnic group is the Kyrgyz, who are indigenous to the land. Non-Kyrgyz ethnic minority groups with Kyrgyz citizenship include Uzbeks, Russians, Dungans (ethnic Chinese), Uyghurs and Tajiks. Suzak and Uzgen have a fairly large ethnic Uzbek population (34.6% of the total district population in Suzak; 22.2% in Uzgen), as well as small percentages of Turkish population (1.9% in Suzak; 3.1% in Uzgen). Uzbek households in Suzak and Uzgen are found in rural villages and engaged in agricultural activities. The country has no indigenous peoples other than the majority Kyrgyz confirmed by CSOs working in mountain areas and academic sources.

The **Ak-Talaa district** in Naryn region has an area of 7,266 km^2 with a population density of 4.4 people per 1 km^2. It is located along the watersheds of the Tian Shan mountain range and Naryn river with several inflows - Terek, Jaman-Davan, Konorchok, and Kurtka. It is estimated that 86 % of the lands in this district are at risk of landslides and mudflows. The area is a high-altitude forest meadow zone. There is one Ak-Talaa *State Forest Fund Agency* in the district with an area of 81 769.7 ha, of which 23 % is covered with coniferous forest.[24] Meadows are covered with tall grasslands used for grazing livestock in the summer. Villages are located far from each other at 1,600 masl and higher, and less than 3 % of the land in the region is arable. More than 50 % of the land is not accessible to people and another 50 % is used as pastures. The livelihood of the residents of this district is mostly livestock-based, with an estimated 111,523 ruminants and 11,853 cattle in 8,226 households (an average of 1.4 cattle and 13 ruminants per household). The livestock rearing here highly depends on climate and weather, and early frosts and droughts often cause devastating impacts to livelihoods in the area.

Suzak is a very large district located in the Jalalabad region. It has an area of 3,091 km^2 and a

[24] Data provided by the SAEPF, 2017

population of 277,500 people with a density of 92 people per 1 km^2. It is composed of 13 AA and 129 villages. Most of the district is situated at 1,600 masl, with the highest point at 3,900 meters. Main rivers are Kara-Darya, Kok-Art, Kara-Alma and Changet. Nearly 90% of the district is at highly exposed to disasters such as floods, landslides and mudflows. In 1998, a catastrophic flood of the river Kok Art destroyed around 1,000 dwellings in Suzak. There are two *State Forest Fund Agencies* – Kara Alma and Ortok – a nut farm (*orekhosovkhoz*), Urumbash forestry unit and the Kara-Darya nursery in Suzak district. The population of Kara Alma AA resides directly within the *State Forest Fund* area. It has no agricultural land except for home gardens, of less than 0.1 ha per household. People rely on forestlands not only for non-timber purposes, but also for livestock grazing. Other *municipalities* of Suzak rayon have borders with the Urumbash forestry unit, Kara-Alma and Ortok *State Forest Fund*. Around 11 % of *State Forest Fund's* area are lands used for grazing and 25 % of leskhozes' income comes from pasture users renting forest pastures for grazing purposes.

Toguz-Toro is a small district in the Jalalabad region neighboring Ak-Talaa district along the Naryn and Kok Irim rivers. It has a land area of 3,816 km^2 and less than 4,000 people, for a population density of less than 7 people per 1 km^2. It is a very remote and mountainous area, situated between 1,150 and 4,351 masl. More than 85% of the area (MES 2018), especially along the rivers, is at risk of natural disasters, such as landslides and mudflows. There is one Toguz-Toro *State Forest Fund Agency* protecting coniferous forests which make up 6% of a total *leskhoz* area of 57,964.7 ha. The population of Toguz-Toro used to be engaged in gold mining, an industry still functioning but on a small scale. Livestock is the main production system in an area with limited arable land and even less irrigated.

Uzgen district in Osh region has a large area of 3,308 km2 with a population of around 256,000 people. This district is the most densely populated among all targeted areas, with 77.5 people per 1 km2. There are 99 villages and small cities in 19 AA, which have 37,205 households. Main rivers are Kara-Darya, Yassi, and Kurshab. The area is extremely vulnerable to climate change marked by a significant decrease in the amount of precipitation that falls as snow, and an increase in rain, which affects glacier melting. More than 75% of the district's area is under the risk of mudflows and landslides. Massive landslides in 2017 took the lives of 24 people in the area. Forests in Uzgen district provide income to about 70 % of the local population, who sell non-timber forest resources and conduct other types of activities on forestry territories, such as livestock grazing and tourism. Uzgen *State Forest Fund Agency* has a large territory of 49,282 ha (28% of the *State Forest Fund Agency* is covered with forests of which 10% is walnut, 40% of its lands are used for grazing). Almost all AAs of the district lie on the borders with Uzgen leskhoz, while several settlements are surrounded by the forest.

Access to resources. As described in greater detail in Section 4.2 (below), land in KR is classified by ownership as state, municipal and private, and beneficiaries' access to pasture and forest resources falls within this classification. CS-FOR will not make or result in changes to the existing framework governing tenure on pasture and forest lands (refer to Sections 4.2 and 4.3). Any (voluntary) changes in access to range/pasture lands, for the purpose of forest/pastureland rehabilitation, will be within the Kyrgyz law; access to forest land will be granted according to governing legislation. Under Component 1, activities related to forestry will study how to optimize land tenure regulations to be compliant to the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests. CS-FOR will facilitate inclusive dialogues also around land tenure arrangements, especially in regards to access and use of pasture and forest resources. Such dialogues may lead to proposals to improve tenure arrangements for individual smallholders and entrepreneurs to facilitate engagement in investment including planting trees on SFF and SLF lands. Another area of dialogue may concern the legal framework around the municipal forest, where the project could support Kyrgyz government in developing tenure arrangements to ensure their protection and sustainable use.

IV. LEGAL AND INSTITUTIONAL FRAMEWORK

The CS-FOR project is closely aligned with and in support of the Government of Kyrgyzstan's policies, regulatory framework and strategies to ensure strong country ownership. The project is aligned to the Intended Nationally Determined Contribution (INDC) that place agriculture, land use management and forestry among the key sectors to ensure both adaptation and mitigation to climate change. The National Strategy for Sustainable Development (NSSD) 2018-2040 and Action Plan 2017-2022 are under development; consultations with the Government confirmed that these strategies are based on the draft Agriculture Development Programme 2017-2020. The project is also in line with the United Nations Sustainable Development Goals, the United Nations Partnership for Development Assistance Framework (2018– 2022) for the Kyrgyz Republic, and the priorities and strategies for nutrition and food security expressed in Government's Concept of Food Security 2009-2019.

4.1 SUSTAINABLE DEVELOPMENT AND CLIMATE CHANGE

The overall framework for development in Kyrgyzstan is guided by the National Strategy for Sustainable Development 2013-2017 (NSSD). It is the first public document outlining key directions for political, economic, and social development of the country since its independence. Specific to the agricultural sector, the NSSD aims, among other things, at: increasing production and quality of agricultural products; increasing export orientation; increasing import substitution/protection of the local producers; increasing the competitiveness of goods and; and stimulating increased processing of domestic raw materials to increase value added. The NSSD also emphasizes the importance of climate change considerations as part of a sustainable development approach for the sustainable use of natural resources, for sustainable economic growth. Currently, the Kyrgyz Government is in the process of finalizing the country's National Strategy for Sustainable Development 2040, which is expected to be adopted in 2018. It is accompanied by the "Forty Steps Programme," aiming, among other things, to preserve forests and biodiverse ecosystems through social forestry and joint forest management, and by regenerating natural resources. Step 39 (Environmental Sustainability) aims at establishing an adequate legal framework and providing state support for environmental protection, and Step 40 (Mountainous Forests) emphasizes the fragility of mountainous forest ecosystems and the need for protection and afforestation. Actions on climate change are reflected in the "National Sustainable Development Strategy of the Kyrgyz Republic for 2013-2017" and the "Program of the Kyrgyz Republic on Transition to Sustainable Development for 2013-2017."

The Climate Change Coordination Commission (CCCC), headed by the First Vice Prime Minister of the Kyrgyz Republic, coordinates all the activities in the Kyrgyz Republic related to climate change. The CCCC is composed of all heads of key ministries and divisions, representatives of the civil, academic and business sectors. SAEPF, the lead governmental body for climate change, acts as its secretariat and is the UNFCCC and Global Climate Fund (GCF) Focal Point. The key objective of the CCCC is to lead and coordinate activities of various agencies and ministries in implementation of the country's commitments under the United Nations Framework Convention on Climate Change and the Kyoto Protocol. Kyrgyzstan submitted its Intended Nationally Determined Contribution to the UNFCCC in 2015.

National (climate change) strategies and action plans have been developed for various sectors including emergency situations, biodiversity and forestry, and agriculture and water management. The "Priority Directions for Adaptation to Climate Change in the Kyrgyz Republic until 2017" was approved by the Government Decree No. 549 of 2 October 2013. These Priority Directions recognize and address the importance of developing adaptation strategies for the Kyrgyz Republic, and will be the main instrument for position building during UNFCCC negotiations and systemization of external fundraising for the development of the national economy[25]. The main goal of the Priority Directions is to establish

[25] The Government of the Kyrgyz Republic. Priority Directions for Adaptation to Climate Change in the Kyrgyz Republic until 2017.

the national resource mobilization policy to minimize the negative risks for the sustainable development of the Kyrgyz Republic. The Priority Directions also identify adaptation priorities for sectors where the risk of damage associated with climate change risks are highest, namely water, agriculture, energetics, emergency situations, health care and forest and biodiversity. Based upon these, separate sectoral strategies and adaptation plans (for water resources and agriculture; emergency situations; health care; forestry and biodiversity) have been developed by the respective relevant key ministries and agencies, which include an assessment of the sector's current state, vulnerability assessment and justification of adaptation measures, as well as plans to estimate the required costs of the implementation[26].

Climate change is also addressed in other national responses to international policy, including the United Nations Convention to Combat Desertification (UNCCD) and the United Nations Convention to Combat Desertification United Nations Convention on Biological Diversity (CBD).

The National Action Plan (NAP) and its Activity Frameworks for Implementing the UNCCD in the Kyrgyz Republic for 2015-2020 has many actions on land degradation that are highly relevant – and in fact, directly linked – to climate change adaptation measures for the agricultural and livestock sectors, and particularly for pasturelands. The NAP highlights that strengthening the capacity for state management of land resources, effective land-use policies, and achievement of sustainable use of land resources will be necessary; it states that a principal condition is to maintain and increase the potential productivity of land while maintaining vital ecosystem functions of soil. Particularly relevant is the inclusion of adaptation measures to climate change in local plans for social and economic development of the regions of the country.

The Third National Biodiversity Strategy and Action Plan (NBSAP) of the Kyrgyz Republic was submitted to the CBD in 2003, and the Fifth National Report in 2014. Strategic Target 4.2 under the NBSAP's "Action Plan for implementation of biodiversity conservation priorities of the Kyrgyz Republic for 2014-2020" is: "Increase the resilience of ecosystems, and thus increase the contribution of biodiversity to carbon stocks, contributing to climate change mitigation and adaptation and to combating desertification". More specifically, during the period 2015-2020 the intention is to "Implement measures for sustainable development of mountain forests and land resources in the face of climate change on the area of 30.0 thousand ha."

4.2 REGULATORY FRAMEWORK IN FOREST AND PASTURE MANAGEMENT

Land in KR is classified by ownership as state, municipal and private. State land is a land managed by the state land users and include lands of the: State Forestry Fund, Water Fund, Specially Protected Nature Areas, Reserve Fund, State Border Fund, State Agricultural Land Fund (mostly arable land and land under perennials), near village pasture lands, pastures of intensive use (these are between near village and remote), and remote pastures (these are high mountainous pastures). The state land also includes all lands which were not transferred into municipal and private ownership. Municipal land are lands within the administrative borders of the aiyl aimak, small towns or cities *except* lands which are in state ownership.

The Constitution of the Kyrgyz Republic declares state ownership of the natural pastures and forests. These lands make up part of the State Forestry Fund (SFF) and are managed by environmental and forestry legislation. Forest ecosystems of the SFF and pasture lands of the State Land Fund (SLF) are governed by two different sets of legislation. The Forest Code and a range of legal and normative acts and regulations govern tenure regime and arrangements on SFF lands. The Land Code, Pasture Law and other land-related set of legislation regulate the use and management of SLF pastures.

[26] *Ibid.*

The Pasture Law was adopted in January 2009. The Kyrgyz Government's vision at that time was to improve pasture management in efforts to reduce poverty and stimulate economic growth. The State Programme for Development of Pasture Management for 2012-2015 and a corresponding Action Plan (Government Resolution #89) were adopted by the Ministry of Agriculture, Food Industry and Melioration (MAFIM) in February 2012. The Programme has aimed to improve the wellbeing of the people, ensure food security, and preserve the environmental integrity of pasture ecosystems. MAFIM is currently in the process of developing a new Pasture Management Strategy and Programme for 2018-2040.

The Forest Code (1999) is the main legal framework for forests and regulates the State Forest Fund management. The National Forest Policy was adopted in 1998 (Presidential Decree #300, October 6, 1998). This policy was based on the three pillars of "State, Man, and Forest," aiming to ensure sustainable forest management by recognizing forests as valuable ecosystems that need to be protected. The Presidential Decree #300 of 1998 stipulated that a new Concept of the Forestry Development 2040 had to be in place in 20 years, i.e. by December 2017. The SAEPF is currently in process of finalizing this concept with the support of FAO. The draft Concept is accompanied by the Action Plan for 2018-2022. The draft Concept is aimed at advancing Sustainable Forest Management (SFM) to ensure economic prosperity, social well-being, environmental safety and wellness of the nation.

With regards to undertaking activities in forest or pasture lands, the activities of CS-FOR are not of nature or extent to require national environmental impact assessment processes. In addition, SAEPF (who is the NDA) is responsible for forests, SFF pastures and national parks and will be directly involved with reforestation/afforestation activities including developing plans for silvicultural works.

4.3 INSTITUTIONAL FRAMEWORK IN FOREST AND PASTURE MANAGEMENT

The MAFIM is an authorized state body at the central level responsible for defining policy in regulating state pasture land use (except pastures of the SFF). It is charged with developing technical and legal regulations on pasture use, pasture land tenure recommendations, pasture condition standards, and quality assessment methodologies and monitoring. It also oversees pasture monitoring, pasture management plans, and provides support to local governments and PUUs on pasture use (Pasture Law, article 14). In 2016, the Pasture Department within the MAFIM merged with two other departments and became the Pasture, Livestock and Fishery Department (PLFD), responsible for developing policy and legislation in pasture management and use, as well as providing technical and other support to local governments and PUUs. The State Land Management Institute *Giprozem* under MAFIM is responsible for monitoring pastures and for pasture border demarcation. There is no cooperation between these departments within the one ministry and they continue to overlap and duplicate some functions.

Responsibility for the management of pastures of the State Land Fund (SLF) belongs to local governments, which could further delegate management to the Pasture Users' Unions (PUUs). To date, 471 *Aiyl Okmotu* (local government) transferred pasture management to established PUUs. According to the 2009 Pasture Law, the *Aiyl Okmotu* Assembly is the supreme body of the PUU, and the PUU should have an executive body – the Jaiyt Committee, which is comprised of elected members of the PUU (usually shepherds and livestock farmers), head of local government, head of local council, and other members of formal institutions. The key principle is that members of the PUU are all residents of the community and they elect representatives to the Jaiyt Committee.

Pastures of the State Forestry Fund (SFF) are managed by the SAEPF and *leskhozes*. Use regime of these grazing areas is defined by the Forestry Code and other forest specific regulations; it is different

from the current tenure regime of the municipal pastures. The major differences are that municipal pasture lands are managed by local governments with the users, who ensure a higher transparency in the allocation of use rights and funds received and are more responsiveness to the needs of local communities. Legal mechanisms aim to limit pasture degradation. The use fee and grazing area allocation is based on the number of livestock, and funds collected from the use go to the local budget for various community needs and to improve pasture infrastructure and conditions. Forests are managed by SAEPF and its territorial divisions and forestry enterprises and units.

4.4 OTHER RELEVANT LEGISLATION

There are numerous pieces of legislation related to agriculture, natural resources and natural resource management, which include: Law No. 166 “On agricultural development” (date of text: 10 April 2009); Law No. 53 “On environmental protection” (date of original text: 16 June 1999 (04 February 2002)); Law No. 183 “On food security” (date of text: 04 August 2008)); Law No. 90 "On consumer protection" (date of original text: 10 December 1997 (24 July 2015)); Forest Code (date of original text: 08 July 1999 (30 July 2013)); Law No. 02 "On plant quarantine" (date of text: 12 January 2015); Law No. 165 “On protection of fertile soil layer of agricultural land” (date of text: 10 August 2012); Land Code of the Kyrgyz Republic (date of original text: 02 June 1999 (15 November 2013)); Law No. 175 "On veterinary practice" (date of original text: 30 December 2014 (02 July 2015)); Water Code (No. 8 of 2004) (date of original text: 09 December 2004 (26 October 2013)); Law No.53 of 2001 “On flora protection and use” (date of text: 20 June 200); and Law No. 18 “On protected areas” (date of text: 03 May 2011). Other relevant laws/regulations are listed in Table 7, below.

Table 7: Major laws and legal acts, regulating management and use of pastures and forest

Name of Regulations and Legal Acts (RLA)	Date of enactment
The Constitution of the Kyrgyz Republic	Adopted on a referendum (nationwide vote) in June 27, 2010
Civil Code of the Kyrgyz Republic	May 8, 1996 #15, part I January 5, 1998 #1, part II
Land Code of the Kyrgyz Republic	June 2, 1999 #45
Tax Code of the Kyrgyz Republic	October 17, 2008 #230
Customs Code of the Kyrgyz Republic	July 12, 2004 #87
Code of Administrative Liability of the Kyrgyz Republic	August 4, 19998 #114
Law of the Kyrgyz Republic on "Management of Agricultural Lands"	January 11, 2001 #4
Law of the Kyrgyz Republic on "Pastures"	January 26, 2009 #30
Law of the Kyrgyz Republic on "Local Self-Government"	July 15, 2011 #101
Law of the Kyrgyz Republic on "Special Status of Transboundary Areas of the Kyrgyz Republic and their Development"	July 26, 2011 #145
Decree of the President of the Kyrgyz Republic on "National Strategy for Sustainable Development for 2013-2017"	January 21, 2013 #11
Resolution of Government of the Kyrgyz Republic on "Measures of implementation of Law on "Pastures"	June 19, 2009 #386
Resolution of Government of the Kyrgyz Republic "On approval of the Program for Development of Pastures for 2012-2015 and the Action Plan for Implementation of the Program"	February 10, 2012 #89
Resolution of Government of the Kyrgyz Republic "On procedures of provision of rights to use pasture resources for other purposes, not related to grazing"	September 13, 2013 #515
Law of the Kyrgyz Republic on "Environmental protection"	June 16, 1999 #53
Law of the Kyrgyz Republic on "Fauna"	June 17, 1999 #59
Law of the Kyrgyz Republic on "Flora Protection and Use"	June 20, 2001 #53
Law of the Kyrgyz Republic on "Subsoil"	August 9, 2012 #160
Law of the Kyrgyz Republic on "Tourism"	March 25, 1999 #34
Law of the Kyrgyz Republic on "Specially protected natural territories"	May 3, 2011 #18
Law of the Kyrgyz Republic on "Hunting"	March 13, 2014 #41
Agreement on cooperation between the Ministry of Agriculture and Melioration of the Kyrgyz Republic and the State Agency for Environmental Protection and Forestry under the Government of the Kyrgyz Republic	April 11, 2013

4.5 REGULATORY FRAMEWORK FOR ENVIRONMENTAL IMPACT ASSESSMENT (EIA)

The legal basis for environmental assessments in the Kyrgyz Republic is formed by the Law on Environmental Protection (1999), Law on Ecological Expertise (State Environmental Review (1999)), Instruction on Procedures of State Environmental Expertise for Pre-Project, Project and other Materials in Kyrgyz Republic (1997), and Instruction on Environmental Impact Assessment Performance Procedures in the Kyrgyz Republic (1997) and other normative documents. The Kyrgyz Republic acceded to the Aarhus Convention on Public Participation and the Espoo Convention on EIA in a Transboundary Context.

The EIA system in KR is based on two subsystems: (i) OVOS (the Russian acronym for "Assessment of Environmental Impacts"), and (ii) Ecological Expertise (State Environmental Review, SER). A screening procedure based on screening lists identifies whether a project is the subject to environmental assessment. In case it is required, an OVOS is conducted by an OVOS Developer hired by a Project Proponent. After presentation of an Environmental Impact Statement (EIS) for public consultations, the EIS is revised based on the feedback from the public. Then the OVOS report and a Statement of Environmental Consequences along with other supporting documentation is submitted to a state expert commission for the State Environmental Review (SER). The project may be approved, rejected or send for re- examination.

For the agriculture and forestry sectors, EIA is required for: a) projects on intensification of agriculture; b) projects on the organization and restructuring of rural land holdings; c) water management projects for agricultural purposes; d) land reclamation projects in order to change the type of land allocation; e) reclamation projects; g) projects establishing new plantations; h) projects on "sanitary felling and recovery operations"; and) logging operations. CS-FOR, however, is not involved in these types of activity and therefore national-level EIA processes are not foreseen.

The State Agency for Environmental Protection and Forestry (SAEPF) is the key institution responsible for the establishment and implementation of environmental policy (Table 8) in Kyrgyz Republic. The Department of the State Environmental Review under the SAEPF is responsible for reviewing environmental assessment documents for projects of national significance.

Other major stakeholders in environmental assessment are:
- Ministry of Health (safety and health issues)
- Ministry of Emergency Situations (natural hazards), and its subsidiary agency KyrgyzHydromet (KHM, or Hydromet, responsible for ambient air and water quality monitoring)
- MAFIM (agricultural issues)
- State Inspection on Environmental and Technical Security Under the Government of The Kyrgyz Republic
- State Agency on Self-Governance and Inter-Ethnic Relations
- Local administrations (social issues, land use, etc.).

Table 8: EIA legislation in the Kyrgyz Republic

Law/Regulation	**Year**
Law on Environmental Protection	1999
Law on Environmental Expertise	2003
The Instruction on the Order of Conducting OVOS	1997
The Instruction on the Order of Conducting SER	1997
On Ratification of the EIA Convention in the Kyrgyz Republic	2001
Instruction on Environmental Impact Assessment (EIA) Procedures for Proposed Activities in the Kyrgyz Republic	2014
Instruction on Procedures for State Environmental Expert Review of Pre-project, Project and other Materials and Documents in the Kyrgyz Republic	1997
Regulation on State Control for Environment Protection, Rational Use of Natural Resources and Provision of Environmental Safety	2000

V. FAO AND GCF SAFEGUARDS

The project underwent an environmental and social assessment against FAO's environmental and social safeguards[27]. There will be no significant or irreversible negative environmental impacts associated with the project – on the contrary, the project objectives are to improve environmental conditions and people's livelihoods. For example, through CS-FOR, pastures will become more productive, and mitigation benefits will be gained by increasing carbon sequestration and reducing methane levels from livestock. Potential environmental and social consequences were identified during project preparation, and therefore to the extent possible these were dealt with during project design. Any potential impacts identified are mainly localized impacts and can be mitigated; they are associated with activities determined/agreed by communities based upon stakeholder consultation and the implementation of their Integrated Natural Resource Management and Climate Resilience Plans (INRMCRPs). This ESFM will be shared with all relevant stakeholders so they will be aware of potential consequences at the time of INRMCRP preparation/sub-project approval/implementation; therefore, potential impacts can be either avoided completely, or mitigated. All sub-projects will be further assessed against FAO's screening criteria for environmental and social management. Further environmental and social assessment is not envisaged, however should activities (e.g. related to income diversification; based upon INRMCRPs) be undertaken that would require further environmental assessment by FAO or nationally, the more stringent will apply. FAO Environmental and Social Management (ESM) Guidelines (2015) is available for consultation[28]. In relation to the ESM Guidelines, The Project will not fund or be involved in sub-projects / investments rated at high risk under the ESIA.

5.1 RISK CLASSIFICATION OF THE PROPOSAL

According to FAO's environmental and social risk classification, the project is moderate risk.
Moderate risk projects are defined as:

a) Projects with environmental and/or social impacts potentially identified.
   Project activities involve afforestation/reforestation (A/R) and restoration. Native tree species, or non-native but already present in the country - and which are non-invasive - will be used for A/R activities (in both pasture and forest lands). Selected species have been identified among the species that are endemic/autochthonous and naturalized that are not reported in the IUCN invasive species list. Detailed selection of species will be done according to ecological and climatic trends and projections of target areas (reference: Project ATLAS, Annex 6 and 6.b of the Funding Proposal). Concerning the economic sustainability, the project will invest in forest restoration in forest areas publicly owned by the State where the main purpose of forests is not a direct economic use but the ecosystem services provided to local communities and overall to the Country. Regarding the incentives, trees will be planted only in dedicated public land (State Forest Fund and/or Municipal land), and will be maintained by relevant public bodies (SAEPF, Municipalities). Potential impacts might include temporary reduction of access to areas in order to allow for vegetation growth and survival, but will be determined by/agreed with communities through INRMCRPs, including through rotational grazing plans.
   –
   – For restoration activities, this involves high-productivity value trees and shrubs such as walnut and pistachio. It is possible that activities require small-scale irrigation and fertilizer use.
   – Sub-projects, especially for income diversification activities, may have environmental impacts, but these are localized and can be mitigated.
b) Potential impact is not without precedents in the project area.
   – There are projects (e.g. IFAD, GEF) in Kyrgyzstan, including in or near CS-FOR oblasts/target districts, that have implemented activities and upon whose activities CS-FOR learns from and builds upon, including experiences with potential impact.
c) Potential impacts are limited to the project footprint.

[27] FAO´s Environmental and Social Management Guidelines available at: http://www.fao.org/3/a-i4413e.pdf
[28] http://www.fao.org/3/a-i4413e.pdf.

- In case of verifying some of the potential identified impacts, these will happen within the project intervention area. Positive impacts related to carbon sequestration are nationally/regionally/globally relevant.

d) Potential impacts are neither irreversible nor cumulative.
   - Potential impacts are reversible and not cumulative, especially if they address mitigation measures.

e) The possible negative impacts may be resolved by means of the use of good acknowledged management practices, or pollution reduction, and it has been demonstrated that they have been used successfully in the areas of the project (upstream and downstream).
   - These will be addressed through mitigation measures (e.g. ensuring stakeholder engagement, following best practice, obtaining necessary technical clearances, where and if needed).

5.2 FAO ENVIRONMENTAL AND SOCIAL SAFEGUARDS (ESS)

Table 9 (below) lists the FAO Safeguards that are applicable for CS-FOR and gives a description of why ("justification").

Table 9: FAO Applicable Safeguards

FAO Safeguard	Applies	Justification
ESS1: Natural Resource Management	Yes	This Safeguard was triggered because the demand-driven nature of investments may include fruit-nut orchard plantations, hence some (tertiary, drip) irrigation. Furthermore, temporary (and voluntary) restriction to grazing areas for vegetation regeneration may take place but would be in line with INRMCRPs developed through the Community Landscape Management Groups (CLMGs).
ESS2: Biodiversity, Ecosystems and Natural Habitats	Yes	CS-FOR will not operate within protected areas but depending on the outcomes of the INRMCRP might work in State Nature Parks (in areas where permitted) – if so, activities will specifically be on afforestation/forest rehabilitation (proposal supported by SAEPF, the same body as the NDA requesting the project). If in sub-projects beneficiaries intend to use genetic resources held by local communities/farmers, at that time they will follow mitigation measures as set determined by FAO's safeguards guidance. The project will not intervene in legally protected areas nor in their buffer zones. The project will not deny access to certain areas a priori. Restoration activities will be selected and executed in agreement with those communities that are legally entitled to benefits from targeted lands. Specifically regarding pasture rotation and consequent restriction of access to certain areas of pastures, this is determined by the INRMCRPs decided by the CLMGs where all users are represented. The regulation on access to SFF is determined by the law and will be agreed within the INRMCRPs mentioned above. Restriction of access to certain areas is according to the law (i.e., in SFF or in Parks) and no compensation is envisaged.
ESS3: Plant Genetic Resources for Food and Agriculture	Yes	For afforestation and pastureland regeneration and fruit-nut orchard activities, planting material will be provided/grown, but they are of both local and already existing non-local species. The ESMF will ensure that *should* non-approved species/breeds be brought in (but this is not envisaged), then appropriate

FAO Safeguard	Applies	Justification
		measure will be taken (certification, compliance with international/national legislation, etc.). All FAO protocols for procurement and use of seeds will be implemented. Lastly, afforestation/reforestation activities proposal was supported by SAEPF (same body as NDA).
ESS4: Animal - Livestock and Aquatic - Genetic Resources for Food and Agriculture	Yes	Existing non-local genetic material will be used (where it is already existing in the country/region) – so it will not be newly introduced. With regards to non-locally adapted breeds for animal amelioration, these breeds are already existing in the country or in the region and are known to improve productivity. Production performance will be monitored.
ESS5: Pest and Pesticide Management	Yes	FAO ESS Guidelines will be adhered to. Also, training will be conducted for sustainable pest management, such as Integrated Pest Management (IPM), etc.
ESS6: Involuntary Resettlement and Displacement	No	Not applicable.
ESS7: Decent Work	Yes	CS-FOR expects to have a positive incremental job creation and youth will be specifically targeted throughout the project activities (e.g. will be encouraged to establish enterprises through the Climate-sensitive Value Chain - Component 3).
ESS8: Gender Equality	Yes	Gender equity will be addressed in the Gender Action Plan and will adhered to during sub-project activity formulation.
ESS9: Indigenous Peoples and Cultural Heritage	No	Not applicable. This was confirmed by CSOs working in mountain areas and academic sources, including a member of CAMP Ala-Too and a representative of Bio-Muras, during the stakeholder engagement meeting with CSOs.

5.3 GREEN CLIMATE FUND SAFEGUARDS

GCF has provisionally adopted the Performance Standards (PS) and directives of implementation of the International Financial Corporation. There are eight IFC Performance Standards that include the main environmental and social questions that must be considered when starting a project, using the best international practices. Table 10 (below) lists, and aligns, them against the (nine) FAO Standards.

Table 10: Green Climate Fund Safeguards

IFC - Performance Standards	FAO Standards
PS 1: Assessment and Management of environmental and social risks and impacts	ESS 1: Natural Resource Management ESS 8: Gender Equality
PS 2: Labor and Working conditions	ESS 7: Decent Work
PS 3: Resource efficiency and pollution prevention	ESS 5: Pests and pesticides management
PS 4: Community health, safety and security	ESS 7: Decent Work (partially)
PS 5: Land acquisition and involuntary resettlement	ESS 6: Involuntary Resettlement and Displacement
PS 6: Biodiversity conservation and sustainable management of living natural resources	ESS 2: Biodiversity, Ecosystems and Natural Habitats

IFC - Performance Standards	FAO Standards
	ESS 3: Plant genetic resources for food and agriculture ESS 4: Animal - Livestock and Aquatic - Genetic Resources for Food and Agriculture
PS 7: Indigenous Peoples	ESS 9: Indigenous Peoples and Cultural Heritage
PS 8: Cultural Heritage	

VI. STAKEHOLDER ENGAGEMENT

The CS-FOR was developed and prepared following a request by the Government of Kyrgyzstan, and a No-Objection Letter was signed by the NDA (SAEPF). SAEPF, who was, and will be involved, in the stakeholder engagement process, is also a member of the CS-FOR Steering Committee and the Project Implementation Unit. The CS-FOR proposal was developed in consultation with stakeholders to ensure that the project design is appropriate and meets national and local needs, to verify the feasibility of the activities included in the project components, and to obtain feedback from all stakeholders on all aspects of the project, including the ESMF and its components (including GRM and Gender). Project disclosure during stakeholder involvement is crucial especially at the local level where Community Landscape Management Groups (CLMGs) will be heavily involved in the process of INRMCRP development which will decide the exact activity areas and precise beneficiary identification.

Stakeholder engagement was undertaken during the Funding Proposal development stage and will continue during project implementation. Consultations during the Funding Proposal development stage were held through: workshops with potential stakeholders, meetings with potential stakeholders, and structured consultations. During project formulation missions, “non-structured” bilateral meetings were also held on both technical and project management/implementation issues.

The following consultations were held: National Facilitation Workshop on Green Climate Fund Project Formulation (Bishkek, 28-29 March, 2017, and bi-lateral meetings on 20 March, 2017); Meeting of the Working Group on discussion Green Climate Fund project proposal concept. Bishkek, 15 June 2017; Initiating Funding Proposal Development (September-October 2017); Furthering Funding Proposal Development (December 2017); and Structured Consultations (District-level Consultation Meeting (Jalalabad, 6 April 2018); Consultations with CSOs (Bishkek, 12 April 2018) and National Workshop (Bishkek, 13 April 2018)).

During consultations, stakeholders identified activity priority areas and gaps, project target areas, and main stakeholders. Other issues that were discussed included the climate rationale, the relevant climate change adaptation and mitigation targets, the proposed project approach including the investment criteria, the sustainability and the expected paradigm shift. Stakeholders agreed on needs to be addressed, targets, methodology, timeframe and budget. Targeted district-level consultations involved over 40 stakeholders including representatives of local self-governments (ayil okmotu), forest enterprises (leskhoze), pasture committees, women's councils and traditional councils of the elders. Consultations with CSOs active in related areas (forestry, pasture, community development and value chain) saw a strong support to the project by confirming the current challenges which the project attempts to address as well as presenting success stories in similar interventions.

6.1 STAKEHOLDER IDENTIFICATION

The preparation of the Concept Note submitted by FAO to the GCF in September 2017 was based on the engagement of relevant stakeholders into the whole project identification and preparation cycle. National consultations with the participation of wide range of stakeholders provided the analysis of

current priorities in the agricultural sector and livelihoods within climate change settings. The project idea, including structure and main interventions, was discussed and agreed with both government officials, representatives of the non-government sector and field specialists in Kyrgyzstan.

Participants in these discussions included the FAO Representative and the FAO projects' staff and experts; officials and staff of the State Agency for Environmental Protection and Forestry (SAEPF) (whose role also includes management of forests, SFF pasture and parks); the Ministry of Emergency Situations (MES); the Ministry of Economy; the Agricultural Projects' Implementation Unit (APIU) and the Department of Pastures, Livestock and Fisheries (DPLF) under the Ministry of Agriculture, Food Industry and Melioration (MAFIM); management and staff of ARIS (Community Development and Investment Agency); the Association of Pasture User Unions "Kyrgyz Jaiyty" (AKJ); the Russian-Kyrgyz Development Fund (RKDF); local NGOs Rural Development Fund (RDF) and CAMP Alatoo; the Kyrgyz Scientific-Research Institute of Livestock and Pasture (KSRILP); the Kyrgyz Scientific-Research Veterinary Institute (KSRVI); the recently established Climate Financing Secretariat; the KyrgyzHydromet; and the State Design Institute for Land Management Kyrgyzgiprozem.

Meetings were also held with donors engaged in rural development, environmental protection and climate change adaptation and their projects' representatives including the European Bank for Reconstruction and Development (EBRD), the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), Japan International Cooperation Agency (JICA) and World Food Programme (WFP), and interacted with relevant World Bank-funded projects. The mission visited all target area districts where it met with officials of *aiyl okmotu* (local government body (AO)) and *leskhozes* (state forest enterprises), ARIS and AKJ district staff, representatives of *zhayit* committees (Pasture User Unions (PUUs)), representatives of national parks, agro-enterprises, women's councils, traditional councils of the elders, private farmers, households and private veterinarians.

During these meetings, and through iterative consultations, stakeholders were identified but specific direct project beneficiaries will be further identified at project implementation (details of the meetings/workshops/consultations are found in Annex 3 of this document).

6.2 STAKEHOLDER ENGAGEMENT

The process of stakeholder engagement is two-phased: during project formulation, throughout project implementation, as described below.

6.2.1 Stakeholder Engagement During Project Formulation

Stakeholder engagement during project design was an over one-year long process that took place during five project design missions. The process of stakeholder engagement involved discussions with, and feedback from, national-level institutions (both governmental and technical), NGOs, CSOs, donors engaged in rural development, environmental protection and climate change adaptation in Kyrgyzstan, officials of local government (*aiyl okmotu*) and *leskhozes* (state forest enterprises). Stakeholder engagement also saw discussions held, and feedback received, from representatives of *zhayit* committees (Pasture User Unions (PUUs)), agro-enterprises, private farmers, households and private veterinarians.

In March 2017, a National Facilitation Workshop on GCF Project Formulation was held to to brief participants on the Green Climate Fund, review climate change impact and trends in the country, identify gaps and lessons learned, and set priorities for the formulation of a proposal to the Green Climate Fund. Throughout June, July and August, discussions between FAO and the NDA were on-going; in July 2017, FAO submitted a GCF funding proposal to SAEPF (the National Designated Authority (NDA) of the Kyrgyz Republic). SAEPF, in their capacity as NDA, then submitted a No-

Objection Letter to the funding proposal (Concept Note) to the GCF in August, 2017; FAO submitted the Concept Note to the GCF in September 2017.

Annex 3 of this document presents the list of consultations carried out to date, and results of the engagement process. Below is a summary.

National Facilitation Workshop on Green Climate Fund Project Formulation
The State Agency on Environmental Protection and Forestry (SAEPF) under the Government of the Kyrgyz Republic (KR) jointly with the Food and Agriculture Organization (FAO) of the United Nations held a National Facilitation Workshop on Green Climate Fund Project Formulation on March 28-29, 2017 in Bishkek. The main objectives are to brief participants on the Green Climate Fund, review climate change impact and trends in the country, identify gaps and lessons learned, and set priorities for the formulation of a proposal to the Green Climate Fund. As a result of this Workshop, it was agreed to prepare a project proposal for the Green Climate Fund.

Meeting of the Working Group on discussion Green Climate Fund project proposal concept
On 15 June 2017, a meeting was held, in Bishkek, to identify and agree – together with national stakeholders - GCF concept note components and the theory of change, for project design. The main goal of the event was to present the project proposal concept to the participants of the meeting, as well as to discuss the details of the concept with stakeholders. Useful feedback was received and a table was prepared detailing stakeholders/partners and their potential role in project implementation.

Initiating Funding Proposal Development
A Food and Agriculture Organization (FAO) mission was fielded in Kyrgyzstan between 30 September and 18 October 2017 (individual travels varied), with the objective of initiating the design of the proposed Carbon Sequestration Through Climate Investment in Forests and Rangelands in the Kyrgyz Republic (CS-FOR). The mission's activities in Kyrgyzstan included meetings with the different stakeholders including national-level institutions (both governmental and technical), NGOs, CSOs, donors engaged in rural development, environmental protection and climate change adaptation in Kyrgyzstan, officials (Suzak and Uzgen districts of Jalalabad and Osh regions) of local government (*aiyl okmotu*) and *leskhozes* (state forest enterprises). Stakeholder engagement also saw discussions held, and feedback received, from representatives of *zhayit* committees (Pasture User Unions (PUUs)), agro-enterprises, private farmers, households and private veterinarians.

As a result of this mission, a preliminary Concept Note was prepared, including a brief project description, rationale and implementation arrangements; summary of the project structure, results and activities; and a proposed Logframe (in the format of the GCF funding proposal).

Furthering Funding Proposal Development
Building upon the priorities for investment identified during the a National Facilitation Workshop on Green Climate Fund (GCF) Project Formulation (March 2017), on the subsequent Concept Note, submitted for comments to the GCF Secretariat in September 2017 (and their comments received in November 2017), on expert reviews within FAO and in the country gathered during and between the missions, and on further discussions with the project stakeholders, a mission was fielded from 1-9 December, 2017. The purpose of the mission was to continue discussions with relevant stakeholders and to begin the process of formulation of the Feasibility Study. Results included refining of the project proposal and details of project activities.

During the period of project preparation, and in preparation of the feasibility study, a number of thematic studies were prepared, including: (a) the development of Earth Map, an open-source platform for climate change analysis (in collaboration with CBC, expected to be released to the public soon); (b) a livelihood and resilience analysis study, carried out by a national NGO with support from

FAO-ESA using RIMA (Resilience Impact Measurement Approach) approach. The survey and the analysis covered the project area as well as a control area with similar conditions; and (c) five working papers supporting the climate investment design, namely on: (i) NRM governance; (ii) pasture conditions and needs for investment; (iii) forests conditions and needs for investment; (iv) livestock production and productivity; and (v) market analysis of non-timber forest products.

During this December 2017 mission, a workshop was also held (7 December, 2017) where findings of the above-mentioned assessments and of the field mission were presented in a second workshop (December 2017) to discuss the climate rationale, the relevant climate change adaptation and mitigation targets, the proposed project approach including the investment criteria, the sustainability and the expected paradigm shift. Agreement was reached on needs to be addressed, targets, methodology, timeframe and budget. The resulting document was circulated among participants for comments and additional recommendations.

Structured Consultations

On 13 April 2018 the FAO project design team held a half-day workshop in Bishkek, with government agencies for consultation of the CS-FOR proposal to the GCF. In addition to that, a series of structured consultations were held: three district-level consultation meetings were conducted as part of the stakeholder engagement process with representatives of the intended beneficiaries, including representatives of national parks; a fourth consultation was held with Civil Society Organizations (CSOs).

The main purposes of the structured consultation meetings were to:

a) Explain the Project's objective and approach, as well as proposals on main activities and expected benefits, institutional set-up and implementation modalities, with special attention to the overall framework of beneficiary participation;
b) Obtain feedback and suggestions from beneficiaries, including groups with potential risks, and other project affected people on the above topics;
c) Discuss potential environmental and social risks, as perceived by beneficiaries and other project affected people, and effective mitigation measures; and
d) Gather suggestions on the most effective project's Grievance Redress Mechanism.

The first meeting was held in Jalal-Abad on 6 April 2018, in which over 40 stakeholders from Suzak and Uzgen districts participated. The CSO meeting was held on 12 April 2018 at the FAO office in Bishkek, inviting representatives from about 10 CSOs active in related areas (forestry, pasture, community development and value chain). The third meeting of district stakeholders (Toguz-Toro district) was held in Kazarman on 17 May 2018. Lastly, the fourth meeting took place in Baetov on 18 May 2018, for the Ak-Talaa district stakeholders.

In the meetings, the FAO design team presented an outline of the project, answered questions for clarifications and sought feedback from the participants. Outputs from the Stakeholder Consultations were used to refine and improve the project design, especially in the areas related to participation and capacity development of beneficiaries and their institutions, and feed into the environmental and social management framework for the Project. The information and feedback obtained at the consultation helped strengthen the overall content of Funding Proposal and associated documents.

6.2.2 Stakeholder engagement during project implementation

Stakeholder engagement during project implementation is heavily based upon the development of Integrated Natural Resource Management and Climate Resilience Plans (INRMCRPs), as these are the primary vector for the full involvement of communities, district and local government, PUUs, lezkhoses, and representatives of SNPs. The process of INRMCRP development will decide the exact activity areas (which will be georeferenced) and precise beneficiary identification and will be determined through Community Landscape Management Groups (CLMGs)[29]. Each CLMG will include the representative of women's council as well as youth organization in each Ayil Aimak. At least 30% of the members should be women. Direct contact with stakeholders through CLMGs will develop INRMCRPs and through these will provide feedback for reporting on the technical aspects of the projects, needs for and results of training/capacity building, and annual operations plans.

The first structured engagement process will be undertaken at the beginning of inception phase. The objective of this first step in stakeholder engagement during project implementation will be to present the project, including activities intervention areas at community level, and definition of all beneficiaries. This will be jointly organized by SAEPF and FAO and will be held in Bishkek. In addition, at the onset of the project implementation, the project's Expertise Group, under the overall responsibility of Gender and Social Development Specialist, will organize a workshop to validate the proposed Gender Action Plan and sensitize key stakeholders.

[29] CLMGs are informal institutions which will be established at the local level by the project to advance participatory management of resources. The CLMGs will be comprised of the representatives of the district administration, local self-government bodies (aiyl okmotu and aiyl kenesh), management of leskhozes and national parks, representatives of the Pasture Users Unions (PUUs), Water Users' Association (WUAs), other civil society and community organizations. The CLMGs would also include active forest and pasture resources' users, and local entrepreneurs, as well as representatives of women's and youth committees. ARIS will elaborate social mobilization and institutions development process on establishment of such groups in four target areas, starting from the village meetings to the district clusters' organizations. Representatives of the communities with be selected at the general village meetings, depending on the specifics of the area. Some villages are located far from the forests and do not use forest resources, and thus they might not be interested to join the CLMG, which will be formed at the level of the Aiyl Aimak. Several CLMGs will form a cluster at the district level chaired by the District Akim, at the tier of the forestry management and district authorities, as well as other state institutions. When necessary, the CLMG cluster would invite representatives of the State Registration Offices, district tax bodies to participate in the meetings. The CLMGs will report to their communities on the preparation and implementation of the INRMCRPs. The project will develop training methodologies and materials on INRMCRP and other issues of pasture-forest ecosystem management and use, organize training for local government, leskhozes and Community Landscape Management Groups (CLMGs) on new arrangements for pasture-forest ecosystem management and monitoring arrangements.

The second stakeholder engagement process will take place at the end of the fourth year of implementation to identify progress and the need for corrective measures, validate the beneficiaries and assessment of new beneficiaries as needed. Feedback from district-level meetings through CLMGs will inform this process. Also organized by SAEPF and FAO in Bishkek, the National Stakeholders Platform (NSP) under the CCCC, acting as Project Steering Committee (PSC), will have a prominent role at this consultation given its mandate.

The third and last stakeholder engagement process will take place before project closure, for a participatory analysis of achievements, lessons learned and identification of good practices and exit strategies to ensure the sustainability of impacts. This will take place at the district level, and a final meeting in Bishkek.

During CS-FOR implementation, all stakeholder engagement processes will be fully documented.

6.3 GENDER ASSESSMENT

Kyrgyzstan's formal legal framework supports women's equality. Its constitution mandates equality between women and men and prohibits gender-based discrimination. The current policy on gender equality is articulated in three core documents: The National Strategy on Gender Equality to 2020 (adopted in 2012, it is the country's first long-term gender strategy); a National Action Plan on Gender Equality for 2015-2017; and the National Strategy on Sustainable Development for the Kyrgyz Republic for 2013-2017. Furthermore, the 2003 law on Basics of State Guarantees for Ensuring Gender Equity grants equal rights and opportunities to women and men and guarantees gender equality in governance structures. Customary law and traditional practices, however, continue to allow for male dominance, undermining women's equal access to assets, services, economic opportunities and decision-making. There is a prevalence of women in informal, high-risk labour markets; gender-based violence is common.

A Gender Assessment and Gender Action Plan were prepared, addressing gender gaps and promoting gender equality and social mobilization across activities.

6.4 DISCLOSURE

Disclosure of relevant project information is part of the process which ensures effective participation of stakeholders, and project transparency. FAO will disclose information in a timely manner, and in a manner that is accessible and culturally appropriate, placing due attention to the specific needs of community groups which may be affected by project implementation (such as literacy, gender, differences in language or accessibility of technical information or connectivity).

For moderate risk projects FAO releases the applicable information as early as possible, and no later than 30 days prior to project approval. The 30-day period commences only when all relevant information requested from the project has been provided and is available to the public.

FAO will undertake disclosure for all moderate risk projects. For this, a disclosure portal has been established to publicly disclose projects documentation including environmental and social safeguards: http://www.fao.org/environmental-social-standards/en/. The GCF will also disclose documents on their portal.

In order to ensure the widest dissemination and disclosure of project information, including any details related to applicable environmental and social safeguards, local and accessible disclosure tools (including materials such as flyers, brochures, and other relevant and available tools) will be prepared and distributed. Attention will be paid to vulnerable groups. The dissemination of information among these groups will be carried out with the project counterparts and local actors such as local governments and user associations.

The Department of the State Environmental Review under the SAEPF, of the Government of Kyrgyzstan, will also disclose all relevant ESMF CS-FOR documentation on: www.ecology.gov.kg.

6.5 GRIEVANCE REDRESS MECHANISM

FAO is committed to ensuring that its programs are implemented in accordance with its environmental and social obligations. In order to better achieve these goals, and to ensure that beneficiaries of FAO programs have access to an effective and timely mechanism to address their concerns about non-compliance with these obligations, the Organization, in order to supplement measures for receiving, reviewing and acting as appropriate on these concerns at the program management level, has entrusted the Office of the Inspector-General with the mandate to independently review the complaints that cannot be resolved at that level.

FAO will facilitate the resolution of concerns of beneficiaries of FAO programs regarding alleged or potential violations of FAO's social and environmental commitments. For this purpose, concerns may be communicated in accordance with the eligibility criteria of the Guidelines for Compliance Reviews Following Complaints Related to the Organization's Environmental and Social Standards[30], which applies to all FAO programs and projects (Guidelines for Compliance Reviews Following Complaints Related to the Organization's Environmental and Social Standards).

Concerns must be addressed at the closest appropriate level, i.e. at the programme management/technical level, and if necessary at the Regional Office level. If a concern or grievance cannot be resolved through consultations and measures at the project management level, a complaint requesting a Compliance Review may be filed with the Office of the Inspector-General (OIG) in accordance with the Guidelines. Program and project managers will have the responsibility to address concerns brought to the attention of the focal point.

Project-level grievance mechanism

The project will establish a grievance mechanism at field level to file complaints. Contact information and information on the process to file a complaint will be disclosed in all meetings, workshops and other related events throughout the life of the project. In addition, it is expected that awareness raising material be distributed to include the necessary information regarding the contacts and the process for filing grievances.

The Project Management Unit (PIU) will be responsible for addressing incoming grievances regarding environmental and social standards; as part of the safeguards performance monitoring, the Project Coordinator of the PIU will be responsible for documenting and reporting on any grievances received and how they were addressed.

Grievance Redress Mechanism Structure:

1. The complainant files a complaint through one of the channels of the grievance mechanism, which will be set up (email address, telephone number(s), contact person or physical address) before project implementation.
2. This will be sent to the PIU, where the Safeguards Specialist, who also acts as the GRM Focal Person, will assess whether or not the complaint is eligible. *The confidentiality of the complaint must be ensured throughout the process.*
3. Eligible complaints will be addressed by the PIU Safeguards Specialist together with the Project Coordinator of the PIU. The Project Coordinator will be responsible for recording the grievance and how it has been addressed if a resolution was agreed upon.

[30] Available online at: http://www.fao.org/3/a-i4439e.pdf

4. If the situation is exceptionally complex, or the complainer does not accept the resolution, the complaint must be escalated to a higher level (FAO Kyrgyzstan Representation), until a solution or acceptance is reached.
5. If the situation is still not resolved, the grievance will be escalated to the FAO Regional Office Europe and Central Asia.
6. If the situation is still not resolved, the grievance will be escalated to the FAO Office of the Inspector-General.
7. For every complaint received, written proof of receipt will be sent within seven (7) working days; afterwards, a resolution proposal will be made within ten (10) working days.
8. In compliance with the resolution, the person in charge of dealing with the complaint may interact with the complainant, or may call for interviews and meetings, to better understand the situation.
9. All complaints received, their response and resolutions, must be duly registered.

Internal process

1. Project Implementation Unit. The complaint can directly contact the PIU either in writing, or orally. At this level, received complaints will be registered, investigated and solved by the PIU.

2. FAO Representative. The assistance of the FAO Representative is requested if a resolution was not reached and agreed upon in level 1.

3. FAO Regional Office for Europe and Central Asia. If necessary, the FAO Representative will request the advice of the Regional Office to resolve a grievance, or will transfer the resolution of the grievance entirely to the regional office, if the problem is highly complex.

4. Only on very specific situations or complex problems, the FAO Regional Representative will request the assistance on the FAO Inspector General who pursues its own procedures to resolve the problem.

Resolution

Upon acceptance a solution by the complainer, a document with the agreement should be signed.

Level of Redress Mechanism	Details
PIU	Must respond within 7 working days. Contact details to be established before project implementation.
FAO representation	In consultation with PIU, must respond within 5 working days. Mr Dorjee Kinlay Akhunbaeva 201, Bishkek FAO-KG@fao.org Tel: +996 312 250827
Regional FAO Office for Europe and Central Asia	Must respond within 5 working days in consultation with FAO's Representation. Mr Vladimir Rakhmanin REU-ADG@fao.org FAO-RO-Europe@fao.org Tel: +36 1 4612000 Fax: +36 1 3517029
Office of the Inspector General (OIG)	To report possible fraud and bad behavior by fax, confidential: (+39) 06 570 55550 By e-mail: Investigations-hotline@fao.org By confidential hotline: (+ 39) 06 570 52333

VII. SUB-ACTIVITIES

7.1 METHODOLOGY FOR PREPARATION, APPROVAL AND EXECUTION OF SUB-PROJECTS

The ESMF identifies the policy triggers for the project, the screening criteria for sub-projects, the environmental and social impacts for the likely subprojects and measures to mitigate the identified risks. In the early stages of the project, once specific target activity areas have been identified and georeferenced, and in the context of the INRMCRPs, an environmental and social screening exercise will be carried out at sub-project level (See Annex 4 of this document for FAO´s Environmental and Social Safeguards (ESS) checklist). This checklist will help identify those sub-projects that may require mitigation measures.

Although not envisaged, if necessary based on the nature of the intervention (based on INRMCRPs), FAO or national environmental impact assessment regulation will be followed (following the more stringent requirement); however, planned activities are in line with OVOS (the Russian acronym for "Assessment of Environmental Impacts").

In order to ensure a smooth and effective ESMF process, there will be one person in the PIU responsible for the environmental and social safeguards process (including GRM and stakeholder engagement).

7.2 SUB-PROJECT IMPACTS AND MITIGATION MEASURES

CS-FOR was designed to have positive environmental and social outcomes. Major project interventions (e.g. strengthening NRM governance, afforestation/reforestation and pasture rehabilitation) will contribute to climate change mitigation through increased carbon sequestration and will also have adaptation co-benefits including, for example, through provision of income diversification opportunities and increased and improved capacity in monitoring. Table 11 (below) identifies the major activities and potential issues that may emerge depending on the sub-projects – and then identifies actions that need to be ensured to happen, or mitigation measures to take - in order to ***not*** have negative consequences. With respect to potential impacts on labor such as occupational health and safety risks and impacts, the project operates according to local national laws.

Table 11: Potential environmental and social impacts, and actions

Potential risks/ impacts in the Activity and respective phase	Actions (ensure avoidance of/mitigation of) to address potential impacts
Afforestation/ reforestation failed due to inappropriate plant material used and inappropriate site selection; (planning/ soil preparation phases)	• Native species used to the extent possible[31] • All plant material should be sourced from legally approved points • If not-native species are used, they must not be invasive • If not-native species are used, national and international legislation must have been adhered to, including obtaining certification/clearances. If the species already exist in the country, confirm that clearance has been obtained • Seedlings should be purchased from authorized nurseries – PPP should be considered for the establishment of new nurseries • Areas for the afforestation/reforestation and enrichment activities have been defined based on reports of SEAPF, and confirmed by the

[31] Main tree species have been matched per target leskhoz conditions according to scientific knowledge from the Kyrgyz Forest Institute under the Academy of Science and validated with SAEPF. The project supports only the planting of endemic or non-invasive domesticated tree species from the Central Asia region, or introduced from the Russian Federation. In the case of fast-growing poplars and willows, the varieties to be used have been domesticated to Kyrgyzstan more than 50 years ago from Russia, and do not pose an environmental, genetic or phytosanitary risk. Whenever possible, priority consideration will be given to conserving the biodiversity and genetic pool of endemic species that are becoming scarce or are under threat (as defined by IUCN, etc.). The same rule applies both for afforestation/reforestation purposes (i.e. where mostly single-species forest is the target), for mixed forests with several tree species, and also in forest restoration work.

Potential risks/ impacts in the Activity and respective phase	Actions (ensure avoidance of/mitigation of) to address potential impacts
	Department of Forest and Hunting Inventory of SAEPF (only availability of the land). However, the work on defining concrete plots on the field have to be done during the project implementation and therefore investment in planting will be identified in an inclusive manner <u>*only*</u> through the integrated natural resources management climate resilience plans, which are agreed amongst <u>*all*</u> stakeholders at local level. • INRMCRPs must include provisions for ensuring, and providing enforcement of, that grazing plans leave regenerated/replanted areas to rest so they are not trampled or eaten • Voluntary agreement by communities for any temporary/managed disruption to access to areas of land/natural resources must be obtained • Monitor vegetation regeneration
Planting of high-productivity value trees required additional investment/ infrastructure (planting phase)	• Irrigation required for planting high-value trees needs to undergo ESS, and national legislation followed, if and as applicable • If the irrigation scheme that is more than 20 hectares or withdraws more than 1000 m3/day of water, need to follow FAO ESS Guidelines. If over 100 hectares, it is a high-risk project and requires a full EIA • Base irrigation schemes on water efficiency/water conservation principles • Monitor planting progress
Low s survival rates of planted vegetation (surveillance / monitoring phase)	• CLMG engagement is key (records of all stakeholder engagement meetings must be maintained) • INRMCRPs ensure that intensive rotational grazing plans be planned around newly planted areas – also to make available alternative grazing areas while newly planted vegetation is established • Monitoring grazing regimes to be undertaken by PUUs and leskhozes • Set up fenced areas – within context of INRMCRP and ensure that all beneficiaries are aware of, engaged in and committed to the process • Raise awareness on the benefits of vegetation regeneration • Address the possibility of longer-lease tenure and accountability arrangements for communities to have "ownership/long-term commitment" to improving and maintaining vegetative cover • Monitor vegetation regeneration
Inadequate plants used for Rehabilitating rangelands (planning/ site preparation and establishment phase)	• Native species used to the extent possible • All plant material should be sourced from legally approved points • If not-native species are used, they *must not be invasive* • If not-native species are used, national and international legislation must have been adhered to, including obtaining certification/clearances • Seedlings should be purchased from authorized nurseries • INRMCRPs must include provisions for ensuring, and providing enforcement of, that rotational grazing plans leave regenerated/replanted areas to rest so they are not trampled or eaten • Monitor vegetation regeneration (biomass yield, species composition) • Monitor pasture management (rotational grazing, animal performance) • Windbreaks/shade shelter-tree planting follows the same mitigation actions *vis* selection of tree species (e.g. even high-production yield fruit and nut trees. o Fencing for tree plantings protection should be maintained, and kept for at least five years before being removed

Potential risks/ impacts in the Activity and respective phase	Actions (ensure avoidance of/mitigation of) to address potential impacts
Pasture management requires small-scale infrastructure such as roads and bridges (planning phase).	• Small infrastructure such as roads and bridges for improved access to pasture lands: ESS needs to be undertaken, as small-scale works will result in some disturbance due to earthworks. • Providing animal watering points - ESS needs to be undertaken for small-scale infrastructure • National EIA legislation applies, if/as required

Limited selection of breeds for improved livestock breeding (planning phase/ at the introduction of breeds)	• Prefer native breeds; however, evidence shows that hybrids are more productive and consequently emit less methane, therefore:
	• If introducing breeds for the first time, national and international legislation must be adhered to. FAO guidance on conducting genetic impact assessment should be followed prior to granting permission to import (covering the animal identification, performance recording and capacity development that allow monitoring of the introduced species/ breeds' productivity, health and economic sustainability over several production cycles)
	  • http://www.fao.org/docrep/012/i0970e/i0970e00.htm
	  • ftp://ftp.fao.org/docrep/fao/012/i0970e/i0970e03.pdf
	• Where using non-native breeds that already exist in the country
	  • Ensure: feed resources, health management, farm management capacity, input supply and farmer organization to allow the new species/breeds to express their genetic potential
	  • Veterinary capacity: veterinary capacity development must be strengthened to ensure the introduced species/breed do not have different susceptibility to local diseases including ecto-and endo-parasites than the locally adapted/native species/breeds – and to have improved capacity to deal with animal-related diseases that are already in the country
	• Monitoring methane release (against the baseline)

Hybrid hay or silage fodder production limited for winter months and lack of feedstock material (grazing phase)	• Native species used to the extent possible • All plant material should be sourced from legally approved points • If not-native species are used, they *must not be invasive* • If not-native species are used, national and international legislation must have been adhered to, including obtaining certification/clearances • Seedlings should be purchased from authorized nurseries • Hay or forage grown as a crop should follow sustainable agricultural principles and practices that optimize the use of biodiversity and ecosystem services (e.g. IPM, planting to encourage nitrogen fixation, etc.)
Importing or transfer of seeds and/or planting materials for cultivation (planning/ grazing phases)	• Ensure that the seeds and planting materials are free from pests and diseases according to agreed norms, especially the IPPC • Clarify that the seed or planting material can be legally used in the country to which it is being imported • Obtain internal clearance from FAO's AGPMG - this is required for all procurement of seeds and planting materials. Clearance from AGPMG is required for chemical treatment of seeds and planting materials
Pesticide use	• If/where pesticides will be used in sub-projects, the first approach is an ecosystem-based approach, meaning using IPM or other ecological pest management approaches such as the use of mechanical/cultural/physical or biological pest control tools in favour of synthetic chemicals; and preventive measures and monitoring • Give training on ecosystem-based sustainable agricultural practices

Potential risks/ impacts in the Activity and respective phase	Actions (ensure avoidance of/mitigation of) to address potential impacts
	• When no viable alternative to the use of chemical pesticides exists, the selection and procurement of pesticides is subject to an FAO internal clearance procedure; the regulations described in Annex 4 of this document describe the principles and procedures to follow.
Increased fertilizer use (grazing phase)	• If fertilizer use will increase as a result of project activities, preference should be given to organic fertilizers • Nitrogen fixation can be improved by planting leguminous crops • Give training on ecosystem-based sustainable agricultural practices
Introducing temporary restricted access to certain areas (e.g. resting areas in rotational grazing, fenced areas) and pastoralists cannot use the land as usual (grazing phase).	• Temporary restricted access to forest/pasture lands that are being afforested/reforested/rehabilitated is within the context of INRMCRPs, and developed by CLMGs – therefore agreement of all stakeholders would have been obtained • Raise awareness on the benefits of vegetation regeneration in both forest and pasture lands • Training on trends in and impacts of climate change • The project will target to improve land tenure arrangements, especially in regards to access and use of pasture and forest resources. The improvements would concern tenure arrangements for private entrepreneurs to engage in planting trees on the state SFF and SLF lands to provide them with adequate security of tenure to encourage investments. The municipal forest has no legal framework and the project would need to ensure support from the Kyrgyz government in developing tenure arrangements for these lands to ensure their protection and sustainable use. • Encourage alternative income diversification activities
Limited income generation activities	• Depending on the sub-project for income diversification, environmental clearances may be required; in shifting to poultry, for example, conformity to environmental standards in light of, for example, housing and waste disposal must be adhered to (and developed in ESMPs).
Climate-sensitive value chain development is not properly happened in sub-projects (planning phase).	• Sub-project profiles will be prepared by proponents (“Agent of Change”), for screening – screening criteria should include basic environmental and social sustainability considerations. • Incremental jobs are created.
Project sites are falling into State Nature Parks/buffer zones and interferes other land uses/rights (planning phase)	• If project activities occur in these areas, they will specifically be on afforestation/forest rehabilitation, on areas that are not excluded from such activities - an idea supported by the State Agency for Environment Protection and Forestry (SAEPF), the same body as the Nationally Designated Authority (NDA) requesting the project. Agreement of SAEPF must be ensured.
Inequity amongst vulnerable groups (planning phase)	• Adhere to the Gender Action Plan
Improper monitoring practices (monitoring phase)	• While this is not an environmental and social impact *per se*, it has implications for tracking project success or shortcomings so these can be mitigated, but also to contribute to larger, national-scale data collection. Therefore, training on monitoring (e.g. revegetation, livestock management, livestock production performance, etc.) is crucial. Each

Potential risks/ impacts in the Activity and respective phase	Actions (ensure avoidance of/mitigation of) to address potential impacts
	inventory and assessment as well as investment should be georeferenced and uploaded in earth map. • Capacity building activities (including training and awareness raising) to be held at different management levels (from local to national) and at national level • Monitoring of the ESMF will be undertaken by a specifically hired person at the PIU

VIII. MONITORING AND REPORTING

8.1 DEFINITION OF SUB-ACTIVITIES

By design, the project is expected to have far greater environmental benefits than adverse environmental impacts. The potential adverse environmental impacts from the project are likely to be small and limited. However, it is recognized that such impacts can accrue into larger impacts if they are not identified early during the planning cycle and their mitigation measures integrated into the project planning and implementation.

Considering the activities to be implemented in each implementing site will be very similar in nature and scale across the implementation area, it is proposed that screening for potential risks is undertaken at sub-activity level. Sub-activities constitute a valid tool to identify expected impacts and mitigation and monitoring measures.

In this context, sub-activities will be identified during the inception phase. For each sub-activity, implementing sites will be identified along with activities, including capacity building/training and stakeholder engagement information specific to each site.

8.2 ENVIRONMENTAL AND SOCIAL RISK SCREENING OF SUB-ACTIVITIES

The project will not fund or be involved in sub-projects / investments rated at high risk under the ESIA. Where projects or sub-projects are classified as moderate risk, FAO will require Environmental and Social Management Plan (ESMP) (i.e. Environmental and Social Analysis (ESA) in the term of FAO Environmental and Social Management Guidelines (2015) for moderate risk) carried out by an expert such as ESS Management Plan Specialist. The expert will deal with all sub-project screening and categorization and require preparation of ESA (for moderate risk) for sub-project proposals using FAO ESS standards and have FAO approve and then forward to RKDF and partner banks for the loans to be provided to borrowers for Component 3 of the Project. The expert will be responsible for all sub-project screening and categorization and will ensure the preparation of ESA when required under Component 1 and Component 2 of the Project.

FAO takes into account relevant national law and system when conducting the environmental and social analysis and impact assessment. For all high risk projects, FAO procedures require a site visit by a qualified environmental and social assessment expert or a team of experts, depending on the key issues considered to pose high risk.

The project Lead Technical Officer (LTO) of FAO will arrange for review of the findings of the Environmental and Social Assessment and proposed mitigation measures with ESM Unit, Budget Holder, Project Task Force and concerned technical department. Following this review and particularly the advice of the ESM Unit, the Chairperson of the Project Task Force will recommend the final decision as to whether or not FAO will be able to support the project. FAO will verify, before approval, that the subproject/project is structured to meet the relevant environmental and social requirements as set out in national law and the FAO ESS.

For FAO moderate projects an ESCP will be prepared during project development to set out the measures and actions required for the project to manage and effectively mitigate environmental and social risks and achieve compliance with ESS over a specified timeframe. The ESCP sets out the project commitments and lists actions that the project will take and a timeframe for these actions to achieve compliance with the standards and manage the identified risks and impacts throughout the entire life of the project. The ESCP

will incorporate the mitigation recommendations of the ESA as well as the results of the stakeholder engagement process. It will summarize concrete measures and actions required to avoid, minimize, reduce or otherwise mitigate the potential environmental and social risks of the project. FAO will require the diligent implementation of identified mitigation measures and a review of the status of implementation as reflected in the monitoring and reporting plan. The LTO, in close consultation with the PTF, prepares the ESCP, which is certified by the E&S Management Unit and reported to the PPRC. The PTF Chair ensures that the ESCP, the Project Funding Agreement and the Project Agreement are completed and attached to the Checklist for Quality Assurance Review.

FAO's Environmental and Social Screening checklist (Annex 5 of this document) will determine if an ESCP is needed for each sub-project. The nature, magnitude, reversibility, and location of impacts are main elements in the screening of sub-projects; expert judgment is a main factor in deciding whether an ESCP is required for a sub-project or not, and national EIA legislation must also be consulted.

FAO will undertake environmental and social screening following FAO's Environmental and Social Safeguards (ESS) Checklist. Once the implementation sites and beneficiaries are determined, a screening checklist will be completed per sub-activity and signed off by the safeguards specialist at the Project Management Unit. The results of the screening checklists will be aggregated by the safeguards specialist. This document will be sent to ESM unit in FAO for endorsement.
The screening involves:
a) checking the activity is permissible (as per the legal and regulatory requirements of the project); and
b) determine the level of environmental assessment required based on the level of expected impacts.

The ESS checklist will result in the following screening outcomes:
a) determine the category for further assessment; and
b) determine which environmental assessment instrument to be applied.

Pre-implementation safeguards documents (one per sub activity) will be under the responsibility of the project Safeguards Specialist prior to the implementation of activities and sent to ESM Unit for endorsement.

The documents will outline the following information relative to each sub-activity:
i. description of the activities to be carried out in all sites
ii. description of each implementing site:
    a. Geography and specificities in terms of activities
    b. Beneficiaries and stakeholders
    c. Map of the site.
iii. Description of the stakeholder engagement process that was carried out in the inception phase and the stakeholder engagement plan to be carried during implementation.
iv. Break down of information by site about the grievance mechanism and disclosure.
v. Aggregated results of the environmental and social screening checklists per sub-activity signed off by the Safeguards Specialist in the Project Implementation Unit.
vi. Where applicable, Environmental and Social Management Plans identifying mitigation measures, indicators, responsibilities and timeframe. The ESCP will be added to the monitoring plan to ensure safeguards performance is regularly reported upon along with stakeholder engagement monitoring per site.

The outline of **Environmental and Social Analysis (ESA) for Moderate Risk Projects** is indicated as follows (Annex 3 of FAO Environmental and Social Management Guidelines (2015)[32]):

Executive summary (Project description; Significant risks/impacts; Stakeholder engagement; Mitigation)
Introduction (Project overview and justification; E&S process)
1. Project description
    1.1 Project location and siting
    1.2 Description of project activities
    1.3 Identification of stakeholders/beneficiaries
2. E&S baseline
    2.1 Current state of the environment and current socio-economic conditions in the project site area
    2.2 Potential future changes foreseen as a result of the planned activities
3. Impact assessment
    3.1 Key E&S risks/impacts
    3.2 Rank E&S risks/impacts by significance
    3.3 Alternatives to project to avoid/minimize impacts
4. Mitigation
    4.1 Identify applicable recognized good management and/or pollution abatement practices
    4.2 Demonstrate record of the prior successful use of identified good management and/or pollution abatement practices in the project area or other justification
    4.3 Indicators to monitor mitigation effectiveness
    4.4 Review of applicable legislation
    4.5 FAO ESS 1 to 9
5. Stakeholder consultation/engagement
    5.1 Stakeholder consultation/engagement
    5.2 Consultations on E&S mitigation
    5.3 Grievance mechanism
6. Recommendations
    6.1 Proceed/do not proceed with project
    6.2 Recommendations

The outline of **Environmental and Social Commitments Plan (ESCP)** is indicated as follows (Annex 5 of FAO Environmental and Social Management Guidelines (2015)):

Part I
1. Mitigation action plan
    1.1 Mitigation measures from the E&S analysis/ESIA
    1.2 Justification of mitigation hierarchy72
Part II
2. Mitigation implementation
    2.1 Recipients institutional/organizational structure to implement mitigation
    2.2 Roles and responsibilities

[32] http://www.fao.org/3/a-i4413e.pdf

2.3 Budget
2.4 Time frames specified for each mitigation action
3. Monitoring and reporting
3.1 Mitigation indicators to be monitored
3.2 Time frame agreed
3.3 Report on findings template
3.4 Reporting time frame
4. Adaptive management
4.1 Where project changes occur, unforeseen circumstances arise, or monitoring determines a need to change mitigation plan, it is changed in accordance with an agreed adaptive management process.

8.3 ENVIRONMENTAL AND SOCIAL RISK MANAGEMENT

For a sub-project that requires an ESMP/ESA, the sub-project proposal must contain an ESMP consisting of a set of mitigation measures with monitoring and institutional arrangements to be taken during their implementation. Budget has been allocated (ref. Section 2.2).

The ESMP should include:
-Mitigation activities: Based on the environmental and social impacts identified through the FAO ESS checklist, the ESMP should provide technical details for each mitigation measure.
-Monitoring: Environmental and social monitoring during the implementation of the sub-projects should be described, in order to measure the success of the mitigation measures.

- A specific description and technical details of monitoring measures that include the parameters to be measured, the methods to be used, sampling locations, frequency of measurements, detection limits (where appropriate), and definition of thresholds that will signal the need for corrective actions.
- Monitoring and reporting procedures to ensure early detection of conditions that necessitate particular mitigation measures and to furnish information on the progress and results of mitigation, e.g. by annual audits and surveys to monitor overall effectiveness of this ESMF.

The ESMP should also provide a specific description of institutional arrangements, i.e. who is responsible for carrying out the mitigating and monitoring measures (for operation, supervision, enforcement, monitoring of implementation, remedial action, financing, reporting and staff training). Additionally, the ESMP should include an estimate of the costs of the measures and activities recommended so that the necessary funds can be budgeted and included in the proposal. The mitigation and monitoring measures recommended in the ESMP should be developed in consultation with all affected groups to incorporate their concerns and views in the design of the ESMP.

Once the pre-implementation documents with ESMPs are endorsed by ESM Unit in FAO, the Safeguards Specialist will ensure ESMPs are included and reported upon, along with stakeholder engagement in the context of the monitoring plan. In this context, field staff will be responsible for monitoring the progress as relevant in the monitoring plan, as well as to identify any potential risks that may emerge through the implementation phase. The annual reporting of FAO to GCF will be provided through the Annual Performance Report. This information will be compiled in progress reports and templates will include a

section on Environmental and Social Risk Management, where the above information will be reported upon.

Information from progress reports will be received by the environmental and social safeguards specialist in the Project Implementation Unit (PIU) who will compile the information received in the progress reports, as well as that related to grievances to feed in a semi-annual report on Environmental and Social Safeguards Performance to be endorsed by the ESM Unit in FAO.

ANNEX 1: ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK WORKPLAN

ACTIVITY	INDICATOR	YEAR 1				YEAR 2				YEAR 3				YEAR 4				YEAR 5				YEAR 6				YEAR 7				YEAR 8				COST	RESPONSIBILITY
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
CAPACITY BUILDING																																			
1. Targeted training for Safeguards Specialist ESS	Training provided																																	3,494	FAO
2. Capacity building of project staff on ESS	Training provided																																	7,669	FAO/Safeguards Specialist
ESS SCREENING AND																																			
1. Identification of sub-activities	List of sub-activities																																	30,800	FAO/Safeguards Specialist/ESMP Expert
2. ESS of sub-activities	ESS Checklists																																	62,700	FAO/Safeguards Specialist/ESMP Expert
3. Environmental and Social Assessment and drafting of safeguards related documentation for compliance by	Pre-implementation documents per sub-activity																																	62,700	Safeguards Specialist/ESMP Expert/Gender Expert/FAO ESM Unit
MONITORING AND REPORTING																																			
1. Monitoring and reporting on Safeguards Performance, on Stakeholder Engagement and Grievance Redress	Project Progress reports with a section on ESMF and ESMP																																	26,900	FAO/Safeguards Specialist
	Semi-annual compliation of ESS performance																																	17,450	Safeguards Specialist/FAO ESM Unit
STAKEHOLDER ENGAGEMENT - IMPLEMENTATIO																																			
1. Periodc meetings of CLMGs (TBD)	Reports of meetings, List of participants																																	25,050	CLMGs/FAO/Safeguards Specialist/"Expert Group" experts/SNP Administrators, as appropriate
2. Stakeholder consultation 1	Consultation reports																																	8,857	FAO/SAEPF/Safeguards Specialist/Gender Specialist
3. Stakeholder consultation 2	Consultation reports																																	8,857	FAO//SAEPF/Safeguards Specialist/Gender Specialist
4. Stakeholder consultation 3	Consultation reports																																	7,282	FAO/SAEPF/Safeguards Specialist/Gender Specialist
GENDER ACTION PLAN																																			
1. Mainstreaming gender in project interventions and social mobilization	Project Progress reports with a section on gender and social mobilization																																	47,075	FAO/Gender Expert/Safeguards Specialist
2. Mainstream gender into project M&E	Project Progress reports with a section on gender and social mobilization																																	26,275	FAO/Gender Expert/Safeguards Specialist

ANNEX 2: EXCLUSION LIST

The following list describes the activities that will *not* be supported by the project:

- Land management practices that may result in the degradation (biological or physical) of soils and water.
- Development of large irrigation schemes or the construction of dams.
- Activities that may increase GHG emissions significantly.
- Activities that result in any detrimental or permanent changes to existing tenure or access rights.
- Activities that decrease the biodiversity or alter the ecosystem functionality or use alien species.
- Activities that:
    - introduce crops and varieties previously not grown.
    - Introduce breeds not previously reared.
    - supply or use modern biotechnologies or their products in crop production.
- Activities that result in the direct supply or use of pesticides that may cause of adverse effects to health and/or environment, and result in an increased use of pesticides; or result in violations of the Code of Conduct on Pesticides.
- Activities that permanently remove people from their homes or means of production/livelihood or involuntarily restrict their access to their means of livelihood.
- The activities related with this project will not risk overlooking existing gender inequalities in terms of men's and women's participation in decision making and/or their differential access to productive resources, services and markets.
- Activities that affect the territories, livelihoods, knowledge, social fabric, traditions, governance systems, and culture or heritage (physical and non-physical or intangible) inside and/or outside the project area, of indigenous people.
- Activities that are located in areas where cultural resources exist.
- The project will not fund or be involved in sub-projects / investments rated at high risk.

ANNEX 3: CONSULTATIONS WITH STAKEHOLDERS

I. National Facilitation Workshop on Green Climate Fund Project Formulation (Bishkek, 28-29 March, 2017, and bi-lateral meetings on 20 March, 2017).

Report

The State Agency on Environmental Protection and Forestry (SAEPF) under the Government of the Kyrgyz Republic (KR) jointly with the Food and Agriculture Organization (FAO) of the United Nations held a National Facilitation Workshop on Green Climate Fund Project Formulation on March 28-29, 2017 in Bishkek. The main objectives were to brief participants on the Green Climate Fund, review climate change impact and trends in the country, identify gaps and lessons learned, and set priorities for the formulation of a proposal to the Green Climate Fund. The workshop was attended by representatives of the Ministry of Agriculture, Food Industry and Melioration of the KR, the Ministry of Emergency Situations of the KR, the Ministry of Economy of the KR, as well as international organizations such as UNDP, WFP, GIZ, World Bank and NGOs and academia. The workshop was organized with the support of the Representative of the FAO Regional Office for Europe and Central Asia, Mr. Reuben Sessa, Climate Change, DRR and Energy Coordinator for Europe and Central Asia, REU focal point for the Green Climate Fund.

On the first day of the workshop Mr. Azamat Erkebaev - State Secretary of SAEPF on behalf of the Director of SAEPF – Mr. Abdykalyk Rustamov and Mr. Dorjee Kinlay - Representative of FAO in the Kyrgyz Republic delivered a welcoming speech. The moderator of the workshop was Mr. Abdymital Chyngojoev, forest expert of the FAO/GEF project - Sustainable management of mountainous forest and land resources under climate change conditions.

National partners made presentations in which they highlighted the current situation in the climate change issue:

1. "UNFCCC implementation in the Kyrgyz Republic" (Ms. Dzhyparkul Bekkulova, SAEPF)
2. "Priorities of the Ministry of Emergency Situations of the Kyrgyz Republic on climate change adaptation" (Ms. Gulmira Kalchekeeva, MES KR);
3. "Climate change, risks and adaptation" (Mr. Temirbek Bobushev, CAIAG)
4. "Pastures adaptation to climate change: current condition and tasks" (Mr. Malik Bekenov, MoA KR)
5. "Mountain forest ecosystems in adaptation and mitigation measures as a factor of reducing risks related to the negative effect of climate change in the Kyrgyz Republic" (Mr. Muslim Rajapbaev, NAS KR).

In turn, the representative of the Secretariat of the Green Climate Fund (GCF) - Ms Carmen Arguello provided information in her presentation about the fund, financial instruments and project approval process. Ms. Margarita Dyubanova, FAO Climate Finance Specialist, also told about the role of FAO in the Readiness and Preparatory Support Program.

Based on the results of the first day, the National Designated Authority represented by SAEPF had identified the following priority areas:

- Strengthening the sustainability of agroforestry on the lands of the state forest fund under climate change conditions. Integration of climate aspects in sustainable management;
- Development of social plantations (fast-growing, fruit). Introduction of modern technologies for processing biomass into biofuels;
- Rehabilitation and creation of shelter belts;
- Research of climate change impact on forest ecosystems for introduction into educational programs;

• Increasing control over diseases and pests (climate change also leads to increasing of fires) of forest and agro ecosystems;
• Adaptation of agricultural production to climate change.
• Research of climate change on changes of soil humus to identify adaptation measures;
• Interventions of reducing land degradation, increasing soil fertility.
• Introduction of climate-resilient crop varieties;
• Strengthening of veterinary services and breed composition under climate change conditions;
• Resilience to natural disasters through measures for agroforestry, slope stabilization and others under climate change conditions.

The second day of the workshop was devoted priority areas identified on the 1st day. In addition, FAO experts made presentations on the main areas in which FAO provides technical support:

1. "Sustainable production systems" (Ewald Rametsteiner, FAO SP2)
2. "Sustainable Food Systems/Value Chain SFS/VC Development" (Azeta Cungu, FAO SP4)
3. "The FAO-CSA approach: A methodology for evidence based policy support" (Adriana Ignaciuk, FAO ESA)
4. "CACILM: Integrated approach to land management" (Oleg Guchgeldiyev, FAOSEC)

Besides on the second day the participants worked on the priority areas identified on the first day in the following groups:

1. **Sustainable production systems, including forestry, livestock, crop and fishery production systems for resilient livelihoods**
   Subgroups:
   - Forestry and forestry production
   - CSA in crop production
   - Livestock and fishery production
2. **Improved markets, including value chains, for sustainable production and resilient livelihoods**
   - Value chains for crop production
   - Improved markets for livestock production
3. **Improved governance capacity for climate change mitigation and climate resilient livelihoods**

The results of the work in the groups included the following:

Group 1 Sustainable production systems, including forestry, livestock, crop and fishery production systems for resilient livelihoods

Livestock

Risks

• Diseases of livestock.
• Desertification.
• Displacement of pastoral habitats.
• Decrease in pasture capacity.

Actions

• Improving access to veterinary medicines, (certification, pricing).
• Caragana weed control, undersowing of pasture grasses.
• Rotation of pastures for the season, early warning systems.
• Settlement of grazing (harmonization).

Aquaculture and Fisheries

Risks

• Disturbance of fish biodiversity.
• Disturbance of biological processes of fish.
• Changes in the ecosystem of water bodies (the productivity of water bodies, biomass of feed organisms changes).
• Changes of the water level in water bodies (disturbance of the oxygen regime, chemical, physical indicators of water).
• Disturbance of fish reproductive indicators
• Eutrophication of water bodies.
• Fish diseases.
• Mudflows and landslides, which can wash off ponds and reduce the water quality for the life of fish
• Reduction of endemic fish species.

Actions

• Creation of adaptive mechanisms for the natural resources management (to introduce an ecosystem approach to the exploitation of aquatic biological resources in aquaculture).
• Improvement of the regulatory framework in the aquaculture and fishery sectors (development of the Aquaculture Development Law and other regulatory instruments under adaptation to climate change conditions).
• Development of pasture, pond and cage culture fishery, development of small-scale fisheries.
• Introduction of new highly productive fish species breeding methods and introduction of a program for the creation of own breeding stock of valuable commercial fishery species.
• Diversification of species composition and modern production technologies under the adaptation to climate change conditions.
• Creation of conditions for monitoring research, and digitization of available information.
• Creation of an educational and research center with its own fish nursery.
• Creation of small-scale nursery systems (fish nursery) to extend the breeding season for carp and trout, whitefish, endemic species and other fish species.
• Creation of a system of training and retraining of higher and middle level specialists.
• Introduction of production system of live forage organisms with the aim of increasing the productivity and trophic status of water bodies for the fish polyculture development and minimizing the risks related to models of an individual species production.
• Creating a logistics system (storage, transportation, etc.).
• Creation of an effective value chain from the producer to consumers, and as a result, decrease the costs of producers and maintain product quality.
• Conduct a multidisciplinary research of natural lakes to create new knowledge about managing the ecosystem and maintaining the lake ecosystem services, and increasing water productivity under the climate change conditions.
• Introduction of fisheries joint management system in major fishery water bodies.
• Introduction of the MCS system in fisheries (monitoring, control, surveillance).

Forestry

Risks

• Changing the vertical forest belt.
• High fire hazard.
• Increasing of diseases and pests in forest.
• Increasing of natural disasters (mudflows, landslides, avalanches, etc.).
• Decreasing of household income from forest use.

Actions

• Increasing of number of permanent and temporary forest seed plots; Establishment of a center for improving seed quality and storage; Strengthening of the nursery farm (number of areas, assortment and introduction of new technologies for growing saplings); Adaptation and introduction of technologies of planting, care of forest cultures; Introduction of agro-forestry (forest policy, legislation and NAP).

• Creation of improved monitoring system, early warning and forest fire prevention; Improvement of the material and technical base of forest protection; Improvement of the quality of fire-prevention measures (mineralized strips, clearing of water reservoirs, strengthening of forest protection, etc.).

• Creation of forest health monitoring; Improvement of biological methods of forest protection; Actions of improving of the material and technical base of forest protection, the creation of mobile biological laboratories.

• Green Projects to strengthen the mudflow, avalanche, landslide areas, slopes and coast-protecting constructions.

• Creation of social plantations (fast-growing and nut-bearing plantations); Restoration of forest shelter belts; The introduction of production of briquettes from wood waste derived from types of cuttings; Creation of shop floors of processing non-wood forest products (walnut, honey, mushrooms, medicinal plants, etc.).

Crop production

Risks

• Frosts (cessation of vegetation, loss of harvest).

• Drought (crop failure, land degradation, water scarcity).

• Strong precipitation (mudslides, floods, land degradation).

• Socio-economic difficulties of the population.

• Decreasing of household income from land use.

Actions

• Creation of a working group on improving the NAP for land relations; Conducting trainings and analytical campaigns; Development of the projects implementation of the GCF and FAO; Implementation of mitigation plans and their monitoring.

• Development, dissemination and practical application of climate-resilient varieties of crops, measures for biological protection and plant quarantine. Strengthening the capacity of household, scientific and production organizations in this area;

• Development, dissemination and practical application of methods for reducing land degradation, improving soil fertility. Monitoring of tracking, assessment and forecast in the face of climate change, strengthening the capacity of economic, scientific production organizations;

• Reduction of filtration at inter-farm, intra-farm irrigation networks, use of equipment for regulating and measuring water flow. Monitoring of open, closed drainage systems work, hydrants. Application of water-saving and water-regulating measures. Strengthening the capacity of water user associations.

Group 2 Improved markets, including value chains, for sustainable production and resilient livelihoods

Interventions/ actions to strengthen value chains

Corn - Strategy for the development of agriculture, including the processing industry; Establishment of logistics centers.

Potatoes - HACCP FSC; Loan products for farmers, Capacity building and awareness raising, Institutional development of PPPs.

Sugar beet - Tax benefits, cooperation and processing industry, Lobbying.

Beans - Establishment of regional laboratories.

Apricot - Improvement of legislation.

Livestock

Meat, milk, egg, fish and honey.

Disadvantages:

• Veterinary, feed production, processing, quality certification, storage, export.

• Disadvantages of forest products: Lack of processing, Lack of packaging, Marketing, Certification of the supply chain.

Main areas of strengthening:

• Application of international best practices.

Group 3 Improved governance capacity for climate change mitigation and climate resilient livelihoods

Legal and institutional gaps

• Lack of organizations in the rural community, which unite the interests of different institutions. There is no single state land use policy.

• There is no certification for agricultural and forest products for export.

• Lack of state planning for food production.

• Lack of a state mechanism of control livestock number.

• Lack of interaction mechanisms between scientific organizations and executive authorities, planning, reporting, implementation of results.

• Weak potential of research and production in agriculture and forestry sectors under climate change conditions.

• Lack of legal definition of some terms: forest, plantation etc. It is necessary to amend the Forest Code;

• Researches related to forest ecosystem services, which prevent and mitigate the impacts of climate change.

• Lack of mechanisms for organizing, creating private forest lands, their stimulation and management.

• Lack of soil law.

• Improve the activities of microfinance organizations (at the legislative level).

• Lack of knowledge and skills.

• Lack of phyto-sanitary control in agricultural products.

• Lack of modern equipment in the phyto-sanitary service and the veterinary service.

• Modernization of the laboratory base: phyto-sanitary and veterinary.

Actions to address gaps

• Strengthening the capacity of the phyto-sanitary service.

• Introduction of state planning in agriculture taking into account economic, social and climatic conditions.

• Strict monitoring of livestock number in each pasture committee, depending on the availability of grazing land and population. Development a methodology of record keeping of agricultural livestock and normative legal act on the liability of livestock holders.

• Restoration of scientific and technical councils in the relevant ministries; Definition of the problem; Necessary research; Ways of implementation.

• Introduction of innovative technologies (CSACA); Lack of specialists; Modernization of the laboratory base: phyto-sanitary, veterinary, soil-geobotanical, biological.

• Amendments to existing legislation (primary and secondary); normative legal acts

• Introduction of innovative technologies (CSA, CA), training of specialists.

• Facilitate the transfer of lands to the forest fund from other categories.

Gender gaps

• Management of households by women from vulnerable groups of the population.

• Lack of women on senior positions.

• Lack of gender statistics.

• Misbalance in the profiles of specialists and in public authorities.

• Gender stereotypes.
• Misbalance of profile specialties (forestry faculty and other specialties).

Actions (approaches) to fulfill the gaps

• Capacity building of specialists, Evidence-based training, Program monitoring and evaluation.
• Work with decision-makers (parliament, ministries).
• Improvement of public-private partnerships; Attraction of investments in agriculture.
• Data collection (Data disaggregated by sex) methodology.
• Involvement of women in production in greenhouses, nurseries, etc.
• Strengthening of the value chains for processing products.
• The quota for female entrants in environmental specialties (forestry faculty, etc.).

Based on work of the second day, it was decided to include the results of the working groups in the project proposal for the Green Climate Fund.

On March 30, 2017 the FAO team and GCF representative Ms. Carmen Arguello had a meeting, where the results of the two-day workshop and further steps were discussed. In addition, the FAO team held meetings with other international partners, in particular, with GIZ, the World Food Program and the Russian-Kyrgyz Development Fund. Within the framework of these meetings, the agencies came to a common opinion on the need for further cooperation in the field of climate change, adaptation and agriculture.

The final stage of this day was the joint trilateral meeting of FAO-GCF-SAEPF. The parties considered the details of the project proposal, further steps, deadlines, and discussed the Readiness Program and posed questions to GCF Representative Ms. Carmen Arguello. As a result of this discussion, the parties agreed on the speedy preparation of the project proposal and forwarding it to the Green Climate Fund.

II. Minutes of the Meeting of the Working Group on discussion Green Climate Fund project proposal concept. Bishkek, 15 June 2017.

Objective: The UN FAO Representation in the Kyrgyz Republic held a Meeting of the Working Group on discussion Green Climate Fund project proposal concept on June 15, 2017 in the conference hall of the FAO office, Bishkek. The main goal of the event was to present the project proposal concept to the participants of the meeting, as well as to discuss the details of the concept with stakeholders.

Participants: The workshop was attended by representatives of the State Agency for Environmental Protection and Forestry (SAEPF) under the Government of the Kyrgyz Republic, the Ministry of Agriculture, Food and Reclamation of the Kyrgyz Republic (MoA), the Ministry of Emergency Situations of the Kyrgyz Republic (MES), the Government Office of the Kyrgyz Republic, the Agency for Hydrometeorology under the Ministry of Emergency Situations KyrgyzHydromet, Climate Change Center, Forest Institute of the National Academy of Sciences of the Kyrgyz Republic, as well as experts and consultants from the FAO Country, Sub-Regional and Regional Offices, FAO headquarters.

The moderators of the meeting were Ms. Cholpon Alibakieva - National Project Manager and Mr. Oleg Guchgeldiev - Coordinator for Climate Change. Cholpon Alibakieva reminded the participants that this meeting was a continuing of the National Facilitation Workshop on Green Climate Fund Project Formulation, which was held on March 28-29, 2017 in Bishkek, and also presented the Agenda.

Minutes: Oleg Guchgeldiyev told participants about the previous GCF Workshop, which was held in March, and the meeting of the GCF held in Georgia, as well as presented the presentation of the project

idea "Forest and pastures in Kyrgyzstan: climate-smart conversion practices of land use" developed jointly by three FAO experts - Mr. Oleg Guchgeldiyev, Ms. Anne Mottet - Livestock Policy Officer and Mr. Jacopo Monzini - Natural Resource Management Specialist.

After the presentation the participants addressed questions and commented on the project idea. In particular, Mr. Hafiz Mumindjanov from FAO noted that it would be better to grow trees or fruit (alcha, plum) on empty hills to protect the hills from soil erosion, and to produce something at the same time. However, there is a law, which restricts the planting of forests on these fields, and he is glad that the project contains a component on improving the legislation and the application of resource-saving technologies.

Mr. Alexander Temirbekov from the Climate Change Center said that thematically this idea is very good. He also noted that FAO right mentioned that this project is not a development project. He asked what risks will be under the project. Since, on the topic of forest-pastures the country has developed materials, which describe all threats, even have the appropriate program of the MoA on the pastures and the Department of forest. They describe not only threats, but also have small calculates. He could not understand the maps on climatic threats. He said, that the program on the forest has not only the maps on climate threats, but also on aridisation, according to which Kyrgyzstan has three the most vulnerable regions. In regards of emergency situations, the MES website has a great map, where threats (landslides and mudflows), which are described here, have accurate localization and category. This concept should be based on national data and vulnerability should be described in accordance with standards (vulnerability, sensitivity and adaptive capacity). As in the sector of forest-pasture he saw only one indicator mitigation – reducing emissions, he would also like to see the adaptation indicator – reducing damage. It is the most difficult moment, which is faced by all developers of our country. The last point, which Mr. Alexander Temirbekov mentioned, was methods, since the project uses the adaptation method based on community, which means that all communities are related to the forest. They should be analysed from the point of view of communities, it is an additional and quite long-term work, and the question on pastures remains open. He told about the UNDP, which was trying to prepare a development project “Increasing resilience including to climate change through the development of pasture management plans”. The data on risks and management of the pastures is available in the Third National communication, and he asked to use this document as the basis of the concept.

Ms. Jyparkul Bekkulova from SAEPF reminded that at the meeting in March they paid attention to the fact that it is necessary to take into account and the FAO team have to analyze all the development projects in our country: implemented and ongoing –UNDP, World Bank, IFAD, WFP and etc, including the pastures and forest sector. She noted that in some projects there is a positive and a negative experience, it is important not to repeat what was in these projects, despite the fact that we have not a development project but on climate, we should not use the same measures. She said that they are waiting for this analysis. She also added that the main issue of the Agency, as the authority responsible for the Climate Convention – how much damage will be reduced. Even if it is estimated from the measures, which we will use in this project, it is important in the end how we will achieve them, as this is climate project. In addition, she said that since this adaptation project, which concerns the forestry sector, forest – these are two sides of the same coin: one is adaptive, the second is mitigation. And it is needed to think about it. She also asked whether the pastures of the state forest fund will be covered by the project.

Mr. Muslim Rajapbaev from the Institute of Forest of National Academy of Sciences addressed the question - whether Kyrgyzstan will be able to apply to the GCF. The representatives of the SAEPF explained him, that the country is now preparing three project applications from UNDP, WFP and FAO. Countries

have no restrictions on submitting applications, but applications must be simple,clear, effective and efficient. And it is the guarantee that in the GCF Board will approve the project. SAEPF also advised the Forest Institute of the Academy of Sciences participate in the preparation of the project, since this is their topic too. SAEPF explained that only accredited organizations can apply – international organizations such as FAO, WFP, UNDP. In turn, Mr. Muslim Rajapbaev proposed to include in the project the Forest Institute, as a research organisation, along with such project implement bodies as MoA, SAEPF, SALSGIER (State Agency for Local Self-Government and Inter-Ethnic Relations of the Government of Kyrgyzstan). They could collect the necessary new data.

Mr. Kylychbek Jundubaev from the Government Office fully supported colleagues, who spoke about sustainable management of land resources through the rehabilitation of pastures and forest resources. He noted that it is necessary to define pastures of the state forestry Fund and pastures of the Committee. Thus, the key participants will be defined. in addition to this, it is important to identify the project sites, it is needed to make inventory and other preparatory work, compile a database. He said that from the GCF meeting in Tbilisi they have learned that projects should base on strategic documents for the restoration of pastures, restoration of forest resources in the territory of the state forest Fund, protective forest belts. He noted that all this affects the reduction of emergencies, which impact food security and well-being of farmers and local communities. He also supported this concept.

The Forest Department also asked to change the forestry organizations on forest institutions in the project document. SAEPF has also a request that all documents were accompanied by a feasibility study.

Mr. Armen Sedrakyan from FAO noted that in terms of resource mobilization component 3 will play a very important role. And he addressed a question, whether there are activities or some ideas of the measures, which are needed now to begin before the start of the project, as it affects policy and legislation. This work also requires money, how are we planning this moment.

Ms. Jyparkul Bekkulova added that the TCP project is to improve forest policy and provides legislative issues - this is the beginning. She also noted that the concept should include a section on monitoring of results objectives achievement, climatic indicators.

Mr. Alexander Temirbekov noted that in regards of SGDs Slide from Presentation, each agency develops its own SGDs indicators, which will be used by MoA, SAEPF.

The Representatives of the MES noted that in mapping the good professionals are needed and which sites will be selected. The representative of MES addressed a question on the component 1, Point 1,1, who will participate in mapping.

The participants discussed the project sites. Ms. Bekkulova Jyparkul warned that the Batken oblast is a pilot in the projects of UNDP and WFP. The Representatives of the Department of Forest and hunting management suggested the following sites where the most landslide-prone sites: Osh region: Uzgen district, Kara-Suu district; Jalal-Abad region: Suzak district, Bazar-Korgon district

Mr. Alexander Temirbekov noted that it is necessary to consider climatic threats to forests and pastures, so he agreed with the Jalal-Abad district. In turn, Mr. Abdymital of Chyngojoev from FAO explained participants that selected sites will also be used for horticulture.

Mr. Kylychbek Jundubaev from the Government office said that this future project is a unique opportunity to avoid repetition and duplication of various projects. He also proposed to consider the Naryn oblast from the point of view of the degradation of pastures, which most are engaged in livestock sector and where forest resources are more effected.

MES representatives also noted that from the perspective of the emergency and the water regulation, the water-regulation plantings are required as well as from the point of monitoring view it is necessary to include MES in the number of beneficiaries or implementation agencies.

Then the participants received a table to fill stakeholders. See below.

In addition, the participants discussed the project budget. Ms. Baglan Salykmambetova of SAEPF noted that it would better to distribute the budget in stages, as thus consideration of the project in the GCF is faster, the GCF does not allocate a large amount, and this fact should be considered before start of the project.

Mr. Alexander Temirbekov said that some organizations have reduced their amounts by half on this basis. Due to the fact that the procedure will be faster, and then they could not find co-financing from another organization.

Mr. Kylychbek Jundubaev from the Government office said that the ratification procedure will be through the Jogorku Kenesh (Parliament) according to our legislation and credit part of the project also will be considered, so it is necessary to consider these issues with the Ministry of economy, Ministry of Finance, NDA.

Speaking about the structure of the implementation, the participants suggested to also include Forest Research Institute, MES and the Climate Change Centre under the Association of forest users, NGOs, Association of forest and land users. Ms. Jyparkul Bekkulova noted that the project or concept are agreed, then these documents will be sent to the Government office and then we ask them to direct. Mr. Alexander Temirbekov asked next time to provide analysis of the situation.

And the last discussed issue was the question of next steps. Ms. J. Bekkulova said that approval procedure should be included. Before concept will be applied, SAEPF will turn to the State authorities and the Government, and then the Government gives its decision.

Oleg Guchgeldiyev, Anna Motte, Jacopo Monzini responded to all the questions of participants of the meeting.

Mr. Dorjee Kinlay said that we have a preliminary draft of the structure of our project, and during the following week, we would like to receive comments from participants. He also hopes that by mid-July, we will be able to provide NDA final version of the concept note. He also hopes that NDA in a month or six weeks will give us their feedback on this concept note. The aim is that by the end of August to provide the document to the GCF, where it will be considered by the GCF Board in the October. Then, depending on the decisions of the GCF Board, we have already prepared a draft TCP, which will fully support project implementation. The draft TCP will go through all the procedures to be approved by NDA . Now we have colleague from investment center, which works on the preparation of such project proposals for approval by all agencies. And so they will work on this project proposal and in the future they will design it in accordance with the requirements. And at this stage he asked the representatives of the agencies to

inform their colleagues about the project, to discuss, and to send comments, suggestions within one week to Cholpon Alibakieva.

In conclusion, Mr. Dorjee Kinlay thanked all participants for their support and expressed the hope that as a result it will be an excellent project.

Stakeholders and Partners

Partner Name	Role of partner
MES, UNDP, WB, WFP	Monitoring and forecasting, conservation of biodiversity during implementation of a green project
Institute of Forest and Nut Planting under Academy of sciences	Research, observations, reforestation and afforestation, Development of recommendations
IUFRO	Development of recommendations, increasing capacity of scientific organizations, knowledge
Department of forest ecosystems development of SAEPF	Support the implementation of the project and participation in the activities
MAFIM	Assist in the implementation on pasture issues
SAEPF	Forest sector, reforestation
MES	Risks
Institute of Forest	Research
MAFIM	Selection of pilot sites, Implementation of activities
SAEPF	Selection of pilot sites, Implementation of activities
Projects of the WB, FAO, GIZ, WFP and others	Use of best practices, experience, joint implementation
SALSGIER	implementing measures
Academy of sciences, Institute of Forest	Participate in project proposal development
SAEPF	Project coordination, climate component, reforestation, pastures of state forest fund (SFF)
MAFIM	Coordination, pastures
Climate Change Center	Climate component
Institute of Forest, Academy of Sciences	Research
MAFIM	Pasture management
SALSGIER	The involvement of local authorities, local communities
SAEPF	Management of forests and pastures SFF (forestry stations, parks)
Government Office of the Kyrgyz Republic	Coordination of state agencies
SAEPF	The forest sector, NDA
MES, HydroMet	Dangerous areas The meteorological data

SALSGIER	The involvement of local authorities in pilot sites
Institute of Forest, Academy of sciences	Scientific
WB project on sustainable development of forest resources	
MAFIM	Direct participation, coordination
Institute of Forest, Academy of Sciences	Conduct research, recommendations and offer improved methods and technologies of agroforestry, disaster
INFRO – International union of forest research organizations	
Forest Institute of Korea	
Sustainability research centre University of the Sunshine Coast	Joint research and recommendations in the areas of the emergency
KyrgyzHydroMet	Agrometeorological services for pasture rayons. The resumption of pasture hydrometeorological observations; Monitoring for pasture vegetation; Prediction of yield of pasture vegetation using GIS technologies The state of water resources and snow cover
MES of KR (Hydromet, Department of monitoring, Departments of MES in oblasts)	Monitoring of forecasting of dangerous natural processes and phenomena; The implementation of "Green projects"-agromelioration in dangerous sites
+ UNDP, WB, WFP	
Climate Change Center	Consultative
Association of forest and land users	Field work
SAEPF; State institution "Kyrgyz Forest and hunting management"; MES; SALSGIER MAFIM	Inventory and mapping od landslide-prone sites; Inventory and planning of forest planting, selection of tree species; Monitoring of forest sites; Remote sensing;

III. Initiating Funding Proposal Development (September-October 2017)

A Food and Agriculture Organization (FAO) mission was fielded in Kyrgyzstan between 30 September and 18 October 2017 (individual travels varied), with the objective of initiating the design of the proposed Carbon Sequestration Through Climate Investment in Forests and Rangelands in the Kyrgyz Republic (CS-FOR).

Institutions met: The mission's activities in Kyrgyzstan included meetings with the FAO Representative; officials and staff of the State Agency for Environmental Protection and Forestry (SAEPF); the Ministry of Emergency Situations (MES); the Agricultural Projects' Implementation Unit (APIU) and the Department of Pastures, Livestock and Fisheries (DPLF) under the Ministry of Agriculture, Food Industry and Melioration (MAFIM); management and staff of ARIS (Community Development and Investment Agency); the Association of Pasture User Unions "Kyrgyz Jaiyty" (AKJ); the Russian-Kyrgyz Development Fund

(RKDF); local NGOs Rural Development Fund (RDF) and CAMP Alatoo; the Kyrgyz Scientific-Research Institute of Livestock and Pasture (KSRILP); the Kyrgyz Scientific-Research Veterinary Institute (KSRVI) and the State Design Institute for Land Management Kyrgyzgiprozem. The mission also met with donors engaged in rural development, environmental protection and climate change adaptation and their projects' representatives including the European Bank for Reconstruction and Development (EBRD), the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), Japan International Cooperation Agency (JICA) and World Food Programme (WFP). The mission visited Suzak and Uzgen districts of Jalalabad and Osh regions where it met with officials of *aiyl okmotu* (local government body (AO)) and *leskhozes* (state forest enterprises), ARIS and AKJ district staff, representatives of *zhayit* committees (Pasture User Unions (PUUs)), agro-enterprises, and with private farmers, households and private veterinarians. The mission greatly benefited from the roundtable organized jointly by ARIS and AKJ where various approaches to and implementation options of integrated NRM were explored and discussed.

Outcomes: As a result of this mission, a preliminary Aide Memoire was prepared, including a brief project description, rationale and implementation arrangements; summary of the project structure, results and activities; and a proposed Logframe (in the format of the GCF funding proposal).

People and Organizations met:

Organization	Name	Title
State Agency for Environmental Protection and Forests	Bakyt Yrsaliev	Deputy Director of Department of Forest Ecosystems Development
	B. Tolongutov	Director, Centre of Regulation in the field of Environmental Protection and Ecological Security
	Venera Surappaeva	Department of Monitoring and Information Systems
	B. Salykmambetova	Chief, Department of International Partnership
State Agency for Local Self-governance and Inter-ethnic Relations	Mr. Ikramov Sanzhar	State Secretary
Ministry of Emergency Situations	Gulmira Kalchakeeva,	Center for Crisis Management
Agricultural Projects Implementation Unit (APIU)	Mr. Sharshenbek uulu Elzarbek and staff	Coordinator of the IFAD-financed Livestock and Market Development Programme
Department of Pastures Livestock and Fisheries under the MAFIM	Mr. Bekenov Ms. Nagima Alymbekova	Specialists
State Design Institute for Land Management Kyrgyzgiprozem	Adam Tashtemirov	Head of the Department
	K. Isaev	Specialist
Kyrgyz Scientific-Research Institute of Livestock and Pastures	Ms. Natalya Kilyazova	Head of the Pasture Department
Kyrgyz Scientific-Research Veterinary Institute	Elmira Akmatova	Director
	Kudaybergen Abdykerimov	Head, Infectious Diseases Laboratory
FAO Representation	Dorjee Kinlay	FAO Representative

Organization	Name	Title
	Dinara Rakhmanova	Assistant FAO Representative (programme)
FAO/GEF project	Cholpon Alibakieva	Project Manager
	Abdymital Chingojoev	National Forestry Expert
	Dyikanbai Kenjebaev	National Expert on Land Degradation and Pasture Rehabilitation
GIZ	Saltanat Asan	Programme Professional
KOICA	Mr. Lee	Advisor
EBRD	Nurgul Esenamanova	Climate Finance Officer
WFP	Sharifbek Sohibnazarov	Programme Officer
	Dinara Abzhamilova,	Vulnerability Assessment and Mapping (VAM) Officer
	Tatyana Semenova	National Programme Officer
JICA Project for Development of Rural Enterprises with Forest Products	Nurlan Sultanov	National Expert
	Aisuluu Duishebaeva	National Expert
WB/GEF Integrated Forest Ecosystems Management Project	Umut Joldosheva	Director
	Gulmira Akhmatova	Monitoring Specialist
Russian-Kyrgyz Development Fund	Mr. Asrandiev Erkin	Board Member
	Ms Osmonova Nurzada and Mr Bakai Aidaraliev	Credit and Investment Specialists
Aga Khan Foundation	Mr. Arslanbek Miiashev	Executive Director
	Jamil Uddin	Director Programs
	Marc-Antoine Adam	Regional Partnership and Donor Relations Officer
	Zholdoshbek Dadybaev	Manager of the Natural Resources Department, PF “MSDP” KG
ARIS	Almazbek Akmataliev and staff	Coordinator for the LMDP
	Kuban Kanakaev	Economist/ Financial Analyst
CAMP Alatoo (NGO)	Azamat Isakov	Director
Rural Development Fund	Ms. Akmatova Kuliypa and staff	Director
Independent Ecological Expertise (NGO)	Oleg Pecheniuk	Chairman
	Elmira Djumakadyrova	Programme Officer
Association of food industry enterprises		
LLC “Bishkek Expo”	Mr. Edil Myrzaliev	
ProdImpex company	Ms. Shailoogul Maylieva,	Director General
Taurus Genetics LLC	Mirbek Borubashev	CEO
Manager – consultant on Livestock/ agricultural entrepreneurships	Aydyn Dzhumadilov	

Organization	Name	Title
Pasture Users Association, Jalal Abad oblast	Kadyrbek Orozaliev	
Kara Alma Ayil Okmutu, Suzak district, Jalal Abad oblast	Ilimbek Alimov	Head of Ayil Okmutu
	Kamchibek Ailchiev	Vice/former Head of Ayil Okmutu
Kurmanbek Ayil Okmutu, Suzak district, Jalal Abad oblast	Abdymalik Suyunbaev	Head of Jayit Committee
Bagysh Ayil Okmutu, Suzak district, Jalal Abad oblast	Kazbeck Kydyrbaev	Head of Jayit Committee
Osh oblast	Abdulla Bakirov	Head of Regional Jayit Association
Zargir Ayil Okmutu, Uzgen district, Osh oblast	Muhtarali Abdullaev	Head of Jayit Committee
Zargir Ayil Okmutu, Uzgen district, Osh oblast	Abdyrahim Musurmonkulov	Deputy Head of Jayit Committee
Myrza ake Ayil Okmutu, Uzgen district, Osh oblast	Kamol Maturayimov	Head of Jayit Committee
Uzgen Leskhoz	R.Kadyrkulov	Director
Kara Shoro National Park	Koilubaev S. and Davletov S.	Staff

IV. Furthering Funding Proposal Development (December 2017)

Building upon the priorities for investment identified during the a National Facilitation Workshop on Green Climate Fund (GCF) Project Formulation (March 2017), on the subsequent Concept Note, submitted for comments to the GCF Secretariat in September 2017 (and their comments received in November 2017), on expert reviews within FAO and in the country gathered during and between the missions, and on further discussions with the project stakeholders, a mission was fielded from 1-9 December, 2017. The purpose of the mission was to continue discussions with relevant stakeholders and to begin the process of formulation of the Feasibility Study. Results included refining of the project proposal and details of project activities.

During the period of project preparation, and in preparation of the feasibility study, a number of thematic studies were prepared, including: (a) the development of Earth Map, an open-source platform for climate change analysis (in collaboration with CBC, expected to be released to the public soon); (b) a livelihood and resilience analysis study, carried out by a national NGO with support from FAO using RIMA (Resilience Impact Measurement Approach) approach[33]. The survey and the analysis covered the project area as well as a control area with similar conditions; and (c) five working papers supporting the climate investment design, namely on: (i) NRM governance; (ii) pasture conditions and needs for investment; (iii) forests conditions and needs for investment; (iv) livestock production and productivity; and (v) market analysis of non-timber forest products.

During this December 2017 mission, a workshop was also held (7 December, 2017, Bishkek) where findings of the above-mentioned assessments and of the field mission were presented in a second workshop (December 2017) to discuss the climate rationale, the relevant climate change adaptation and mitigation targets, the proposed project approach including the investment criteria, the sustainability and the

[33] http://www.fao.org/3/a-i5665e.pdf

expected paradigm shift. Agreement was reached on needs to be addressed, targets, methodology, timeframe and budget. The resulting document was circulated among participants for comments and additional recommendations.

Workshop of the FAO project proposal concept for submission to the GCF Carbon Sequestration through Climate Investment in Forests and Rangelands in the Kyrgyz Republic (CS-FOR), Bishkek, 7 December 2017.

People and Organizations met

Organization	Name	Title
State Agency for Environmental Protection and Forests	Bakyt Yrsaliev	Deputy Director of Department of Forest Ecosystems Development
	B. Tolongutov	Director, Centre of Regulation in the field of Environmental Protection and Ecological Security
	Venera Surappaeva	Department of Monitoring and Information Systems
	B. Salykmambetova	Chief, Department of International Partnership
State Agency for Local Self-governance and Inter-ethnic Relations	Mr. Ikramov Sanzhar	State Secretary
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	K. Isaev	Specialist
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Kyrgyz Scientific-Research Veterinary Institute	Elmira Akmatova	Director
	Kudaybergen Abdykerimov	Head, Infectious Diseases Laboratory
FAO Representation	Dorjee Kinlay	FAO Representative
	Dinara Rakhmanova	Assistant FAO Representative (programme)
FAO/GEF project	Cholpon Alibakieva	Project Manager
	Abdymital Chingojoev	National Forestry Expert
	Dyikanbai Kenjebaev	National Expert on Land Degradation and Pasture Rehabilitation
GIZ	Saltanat Asan	Programme Professional
KOICA	Mr. Lee	Advisor
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WFP	Sharifbek Sohibnazarov	Programme Officer

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	Gulmira Akhmatova	Monitoring Specialist
Russian-Kyrgyz Development Fund	Mr. Asrandiev Erkin	Board Member
	Ms Osmonova Nurzada and Mr Bakai Aidaraliev	Credit and Investment Specialists
Aga Khan Foundation	Mr. Arslanbek Miiashev	Executive Director
	Jamil Uddin	Director Programs
	Marc-Antoine Adam	Regional Partnership and Donor Relations Officer
	Zholdoshbek Dadybaev	Manager of the Natural Resources Department, PF “MSDP” KG
ARIS	Almazbek Akmataliev and staff	Coordinator for the LMDP
	Kuban Kanakaev	Economist/ Financial Analyst
CAMP Alatoo (NGO)	Azamat Isakov	Director
Rural Development Fund	Ms. Akmatova Kuliypa and staff	Director
Independent Ecological Expertise (NGO)	Oleg Pecheniuk	Chairman
	Elmira Djumakadyrova	Programme Officer
Association of food industry enterprises		
LLC “Bishkek Expo”	Mr. Edil Myrzaliev	
ProdImpex company	Ms. Shailoogul Maylieva,	Director General
Taurus Genetics LLC	Mirbek Borubashev	CEO
Manager – consultant on Livestock/ agricultural entrepreneurships	Aydyn	
Pasture Users Association, Jalal Abad oblast	Kadyrbek Orozaliev	
Kara Alma Ayil Okmutu, Suzak district, Jalal Abad oblast	Ilimbek Alimov	Head of Ayil Okmutu
	Kamchibek Ailchiev	Vice/former Head of Ayil Okmutu
Kurmanbek Ayil Okmutu, Suzak district, Jalal Abad oblast	Abdymalik Suyunbaev	Head of Jayit Committee
Bagysh Ayil Okmutu, Suzak district, Jalal Abad oblast	Kazbeck Kydyrbaev	Head of Jayit Committee
Osh oblast	Abdulla Bakirov	Head of rRgional Jayit Association

Organization	Name	Title
Zargir Ayil Okmutu, Uzgen district, Osh oblast	Muhtarali Abdullaev	Head of Jayit Committee
Zargir Ayil Okmutu, Uzgen district, Osh oblast	Abdyrahim Musurmonkulov	Deputy Head of Jayit Committee
Myrza ake Ayil Okmutu, Uzgen district, Osh oblast	Kamol Maturayimov	Head of Jayit Committee
Uzgen Leskhoz	R.Kadyrkulov	Director
Kara Shoro National Park	Koilubaev S. and Davletov S.	Staff

V. Structured Consultations

- District-level Consultation Meetings:
  - Jalalabad (Uzgen and Suzak districts, 6 April 2018)
  - Kazarman (Toguz-Toro district, 17 May 2018)
  - Baetov (Ak-Talaa district, 18 May 2018)
- Consultations with CSOs (Bishkek, 12 April 2018)
- National Workshop (Bishkek, 13 April 2018)

District Level Stakeholder Consultation Meetings (Jalalabad, 6 April 2018)

Three consultation meetings at the district level were planned in the project target districts, inviting representatives from local self-governments (ayil okmotu), forest enterprises (leskhoze), pasture committees, women's councils and traditional councils of the elders. Three district consultation meetings were held: the first one in Jalalabad city on 6 April 2018 for the stakeholders from Uzgen and Suzak districts; the second one in Kazarman on 17 May 2018 for the Toguz-Toro district stakeholders; and the third one in Baetov on 18 May 2018 for the Ak-Talaa district stakeholders. 30-50 people participated in the meetings, of whom women constituted about 10-15%.

(Jalalabad, 6 April 2018; Uzgen and Suzak stakeholders)

In each meeting, the presentation of the project was followed by active feedback from the participants. Participants requested clarification and further details on such aspects as duration, its effects on climate change, selection of the target area and geo-referencing methodologies. Many participants spoke about how climate change impacts are affecting their everyday life and stressed importance of the project. Problems such as poor quality of pastures, danger of natural disasters such as landslides, absence of clean water, high number and low quality of livestock, overdependence on livestock production as the main source of income were among the most common topics raised during the discussion.

(Kazarman, Toguz-Toro district, 17 May 2018)

In each district meeting, participants were broken into groups and each group was requested to discuss the following four topics: (i) who should be in the Community Landscape Management Group (CLMG) at ayil aimak level: (ii) what should be included in the Integrated Natural Resources Management and Climate Resilient Plan (INRMCRP); (iii) what are potential risks in implementing the Plan according to their views; (iv) which groups require special attention for their participation and inclusion; and (v) how the project can involve youth. The table below summarizes the results of the group discussions, which were reported by the groups.

Recommendations and Suggestions from District Stakeholder Consultation Meetings

Topics for which feedbacks were sought	Responses		
	Uzgen and Suzak	**Toguz-Toro**	**Ak-Talaa**
Who should be members of the Community Landscape Management Group (CLMG)	Aiyl Okmotu (AO) head Pasture committee Leskhoz representatives Local council (ayil kenesh) National Park representatives Council of the elder - *aksakar* women's council AO land specialist Pasture users Tenants (lessees) of forest land Water users association Youth council NGOs Large farm business operators Businesses Unions of Government employees Educated and respected people Ministry of Emergency Situations at Rayon level EcoTech Inspection at Rayon level State Registration Service at Rayon level Rayon administration	Forest enterprises (Leskhozes) Ayil Okmotu Pasture users union National Park representatives Community members (councils of the elder, women and youth) Hunting enterprises Representatives of SRS (State Registration Service) Representatives of EcoTechInspection (Ecological, Technical security Inspection) Local council (ayil kenesh) NGO Local business Ecologists Veterinarians State Registration Service **N/B: one group reported that at least 30% of the membership should be women.**	Ayil Okmotu Pasture users union Forest users Water users union Farmers Business Hunting enterprises Emergency Situations Ministry representatives EcoTech Inspection Veterinarians Regional department of agrarian development Farmers Water department representatives Women's council Youth council Elders council Leskhozes

Topics for which feedbacks were sought	Responses		
	Uzgen and Suzak	**Toguz-Toro**	**Ak-Talaa**
What should be included in the INRMCRP.	<u>Actions during the planning</u> Information on natural resources (inventory) Development of an NRM plan Development of budget plan Development of monitoring mechanisms Implementation of accepted work plans Monitoring group establishment Report of the results Social mobilization Information and awareness campaigns <u>Investments</u> Improvements of roads leading to pastures Measures to prevent landslides Forests preservation Forestation Clean drinking water Measure to help reduce migration Preservation of newly planted trees (to protect from animal) Tree nurseries River banks strengthening Pasture rotation and improvement Transition from quantity to quality of livestock Tourism Establishment of small businesses Grass seeding for pasture improvement Infrastructure improvement (bridges, road and water points)	Pasture rotation Sustainable water resources use Sustainable forest resources use Infrastructure improvement Pastures monitoring Improvements work according to pastures monitoring, relocation to remote pastures Ban on use of degraded pastures Planting trees to increase forest areas Planting trees in areas with high natural disasters danger Fencing to protect newly planted trees Identifying pasture borders Building roads to remote pastures Building bridges Sowing herbs on degraded pastures Preservation of water resources Identifying a number of livestock on pastures	Fencing Pasture quality improvement Planting fruit trees Restoration of lands affected by erosion Fencing newly planted trees Relocation of livestock to remote pastures Provision of sufficient amount of water Pasture rotation Building roads to remote pastures Building bridges Building water points Providing water for irrigation

Topics for which feedbacks were sought	Responses		
	Uzgen and Suzak	**Toguz-Toro**	**Ak-Talaa**
What kind of risks are there for implementing the plan.	Irrigation improvement may cause landslides Pasture area reduction after planting trees Destruction of newly planted trees by animals Conflicts in the process of implementation of the plan Transition from quantity to quality of livestock while preserving pasture lands Lack of shared understandings among different groups in the same community/between neigbouring communities on interventions Personal interest vs. community interest Unstable funding Risk of becoming a campaign without results (advocating same activities only every year) Political instability Poor quality of laws and regulations Low levels of awareness Absence of qualified experts High turnover of employees (mostly AOs) Low level of government support to business, farmers, etc.	Unfulfilled agreements lead to misunderstandings Poor financial management **N/B: two groups reported that they do not foresee any risks**	Financing and timing that may hinder the project from reaching its goals. **N/B: two groups reported that they do not foresee any risks**
What groups in the community need special attention?	Low income families People in need People affected by natural disasters on pastures and in forests, particularly landslides The disabled The elderly without attention Widows Orphans	People in need Low income families Widows left with no financial support The unemployed The disabled	Low income families Unemployed

Topics for which feedbacks were sought	Responses		
	Uzgen and Suzak	**Toguz-Toro**	**Ak-Talaa**
Suggestions to involve the youth	Involvement in the INRMCRP development process Involvement of youth groups Incentivizing youth work camps Providing youth with clear and transparent information Providing opportunity for youth to gather information from mobile Internet Planting fruit trees with a 30% quota for youth Tree planting Small businesses establishment Tourism Involvement of NGO in information process to youth	Cooperation with youth groups is very important project implementation Involvement of youth in competitions Involvement of youth in the project at least at 20% level Information campaign among tyouth Support of young and unemployed families Organization of study courses on project design	There is a need for a quota for youth Involvement of youth in planting and fencing trees Providing incentives for business and youth

The FAO team presented an outline of the ESMF and GRM, to which the participants showed good understanding and support. Questions and comments included: the wide spread of hawthorn and how to eliminate this weed; solutions to decrease number of livestock on pastures to prevent overgrazing through such measures as fencing, tax increase and changes in the legislation; and potential roles of religious leaders.

(Baetov, Ak-Talaa district, 18 May 2018)

List of Participants in District Consultation Meetings

Jalal-Abad meeting (for Uzgen and Suzak Districts)

	Name	Organization/Title
1	Baidaliev A	SAEPF
2	Osmonaliev R	CAMP Ala-Too
3	Asanbekov M	Ortok leskhoz
4	Mamatov K	Jalal Abad oblast pasture users association
5	Aitieva B	Ortok leskhoz
6	Turusbekova M	Kara Alma AA
7	Jeenkulova Z	Kyz Kol AA
8	Bakirov K	Kyzyl Too AA

9	Samidinov R	Kyzyl Too AA
10	Karaev S	Kolduk AA
11	Inashov E	Salam Alik AA
12	Chybyshev T	Salam Alik AA
13	Kulmatov P	Karool AA
14	Abdullaev M	Zerger AA
15	Ubukeev R	Jylaldy AA
16	Mamatov N	Changet AA
17	Turkbaev T	First deputy head of Suzak District Administration
18	Alaychiev B	Deputy head of Uzgen District Administration
19	Koilubaev S	Kara Shoro National Park, Director
20	Kurmankulov R	Head of Myrzaake AA
21	Ahmedov I	Farmer
22	Matkasymov J	MAFIM, Suzak district office
23	Kadyrkulov R	Uzgen leskhoz
24	Hodjabekov B	Tash Bulak AA
25	Sultanov G	Barpy AA
26	Zulushev D	Uzgen
27	Shaimkulov SH	Lesik Yug
28	Sarymsakov Z	Lesik Yug
29	Isanov T	Kyzyl Tuu PUU
30	Asanov T	Kara Darya PUU
31	Kudaiberdiev Sh	Head of Kok Art AA
32	Alimov I	Head of Kara Alma AA
33	Abdrahmnov A	Agrolid
34	Murzamamytov S	Ak Jar AA
35	Abdukarimova	Ak Jar AA
36	Tenizbaev M	Urumbash leskhoz
37	Nazanov K	Kara Alma leskhoz
38	Bakirov D	Kurmanbek AA
39	Murzabekov R	Bagysh AA
40	Keneshbaev I	Lenin AA
41	Ajikulov Ch	Atabekov AA
42	Alimbekova Y	Bagysh AA

Toguz-Toro Meeting

	Name	**Organization/Title**
1	Mametkulov Ch.	“Saimaluu Tash” state park
2	Akuluev T	“Saimaluu Tash” state park
3	Bobukeev B	Atay
4	Atkulova Anara	Atay
5	Moldalieva A	Atay
6	Moldobekov U	“Kan Achuu” state park
7	Sultanov R	Toguz Toro forestry
8	Baatyrbek u. Askar	Toguz Toro forestry
9	Kambaraliev A	“Kan Achuu” state park

10	Nurgaziev A	Regional department of agrarian development
11	Jumadil uulu B	Regional department of agrarian development
12	Baimanbet uulu M	Sary Bulun
13	Totuev J	Kargalyk
14	Kochorbaev U	Toguz Toro
15	Toktonaliev A	Sary Bulun
16	Abyshbaev A	Atay
17	Manapbaeva K	Atay
18	Apiev A	Kargalyk
19	Kazybaev J	Kargalyk
20	Akmatbekov M	Kargalyk
21	Ornoshov B	Sary Bulun
22	Abdyldaev B	Atay
23	Toktonaliev B	Sary Bulun
24	Moldaliev N	Toguz Toro
25	Eneev K	Kok Irim
26	Musa uulu J	Kok Irim
27	Kaparov J	Kok Irim
28	Naimanova P	Kok Irim
29	Kanbolot k. P.	Kok Irim
30	Anikeev E	Kok Irim
31	Oljotoev M	Toguz Toro district administration
32	Sultangazieva G	Deputy head of Toguz Toro district
33	Alymbek B	Toguz Toro

Ak-Talaa Meeting

	Name	Organization/Title
1	Abdyrahmanov B	Ak Chiy
2	Nurmanbetov Sh.	Ak Chiy
3	Ayipov E	Ak Chiy
4	Aldeev R	Jany Talap
5	Beisheev S	Kosh Dobo
6	Jeentaeva A	Kosh Dobo
7	Satyndiev U	Kosh Dobo
8	Dosmuratov S	Baetov
9	Bayaliev Ch.	Baetov
10	Kurmanaliev A	Kosh Dobo
11	Degenbaev T	Baetov
12	Akmataliev	Baetov
13	Ajiev A	Ak Talaa leskhoz
14	Medetbek uulu N	Ak Talaa leskhoz
15	Monolov T	Togolok Moldo
16	Orozobekov A	Togolok Moldo
17	Kalykov T	Togolok Moldo
18	Mamytov D	Togolok Moldo
19	Suiunbekov R	Ak Tal
20	Satarov E	Ak Tal
21	Shergaziev A	Kyzyl Beles
22	Abdyldaev A	Kyzyl Beles
23	Chylymdaev B	Kara Burgon
24	Duishembiev A	Ak Tal
25	Seidakmatov T	Konorchok
26	Esengulov Y	Ugut
27	Nasyrbaev M	Konorchok
28	Moldokmatov Sh	Jerge Tal
29	Ashyrbekov B	Jerge Tal
30	Uchugenova G	Jerge Tal
31	Nurakov K	Terek
32	Jusubaliev J	Ugut
33	Kojoev T	Terek
34	Rysbaev T	Kosh Dobo
35	Solpuev S	Kok Jar
36	Satkynov S	Jany Talap
37	Kalmuratov E	Kok Jar
38	Tologonov M	Kok Jar
39	Akiev A	Konorchok
40	Soodonbekov N	Kara Burgon
41	Kulov A	Togolok Moldo
42	Tashmatov J	Baetov
43	Satynaliev T	Baetov
44	Baiteriev N	Kyzyl Beles

45	Esenamanov K	Kara Burgon
46	Omurov M	Togolok Moldo
47	Buzurmanov T	Ugut

Meeting with Civil Society Organizations

The CSO meeting was held on 12 April 2018 at the FAO office in Bishkek, inviting representatives from about 10 CSOs active in related areas (forestry, pasture, community development and value chain). Feedbacks from the participants to the project were positive – they provided strong support to the project by confirming the current challenges which the project attempts to address (such as un-harmonized policies and conflicts between State Land Fund and State Forest Fund pastures), as well as presenting success stories in similar interventions (pasture management of communities and value chain development).

Comments and suggestions from the participants were related to a wide range of topics, including: importance to include the regional administration; need for coordination with businesses; need to include representatives from women's and elders' councils; importance for communications at all levels; need for special attention to poor families; need to pay attention to non-timber forest resource users (nuts collectors, beekeepers, etc.); and importance of organic certification for Climate-sensitive Value Chain.

The participants' comments on GRM included: acknowledgement of existence of corruption; potential roles by *aksakar* (traditional councils of the elders) and women's councils; importance to involve the existing formal institutions at the subnational level (such as district administration, leskhoz, and land management authorities); and need to consider different resources/channels for different types of grievances.

List of Participants in CSO Meeting

	Name	**Organization**
1	Azamat Isakov	CAMP Ala-Too
2	Gulnaz Kaseeva	Agrolead
3	Akylbek Kasymov	Bio-Muras
4	Nurdin Kumushbekov	DPI
5	Kuluipa Akmatova	RDF
6	Abdymalik Egemberiev	Kyrgyz Jayiti
7	Damira Raeva	HSI
8	Iskender Amanbaev	FMS
9	Nurlan Isabekov	ARIS
10	Aitkul Kurkhanov	KAFLU

Workshop with government agencies for consultation of the FAO project proposal for submission to the GCF Carbon Sequestration through Climate Investment in Forests and Rangelands in the Kyrgyz Republic (CS-FOR)

Venue: SAEPF Department of Forest Ecosystems Development Conference Hall, Bishkek, Kyrgyzstan
April 13, 2018

9:00 am – 12:00 pm

ANNOUNCEMENT

Ms. Dinara Rahmanova greeted participants, thanked them for participation, introduced FAO team members - experts in different fields, stressed importance of participants' opinions and that all of them will be included in the design.

Ms. Jiparkul Bekkulova expressed hope for a good cooperation, asked to share ideas, ask questions and actively participate in the discussion. Forest sector is very vulnerable and projects such as CS-FOR are needed, but copying other projects must be avoided.

Mr. Bakyt Yrsaliev informed that experts of the project met with communities in their field trips and expressed hope that the project design paid attention to people's needs. He also stressed importance of avoiding of copying projects.

Participants introduced themselves.

DISCUSSIONS

Mr. Tommaso Alacevich gave a detailed presentation about the project proposal concept: main problems, national commitments, Core project area, vulnerability to natural disasters, the ecosystem approach, project components, outputs, impact, georeferencing strategy, investments monitoring, work plan.

Mr. Jacopo Monzini. The first investment of the CS-FOR project is already at disposal of Kyrgyzstan - Earth Map atlas. It is a very clear and proactive monitoring tool. It is updated automatically, high resolution international data with downscaling ability to oblast level. All project activities can be tracked on the map with no additional software or equipment needed, nevertheless this is not a forecasting tool.

Ms. Aijan Jakshylykova. Very needed project for the country. Forestation of pastures will require change in legislation. Planting herbs on pastures can be a good option for income diversification. The World Bank project on pastures inventory could benefit the project.

Mr. Tommaso Alacevich. No changes in status of lands is planned, forestation will be in areas where it can be done.

Ben Norton. Unfortunately we cannot plant trees on pastures, shelter belts would provide shade for livestock. Pasture rotation is a good tool to improve pastures.

Inna Punda. Added value chain component: herbs planting depends on market demand, communities to decide whether to plant or not.

Ms. Elena Taranova. It is a difficult to prove status of eco products. There is a need for laboratories and certification. There is also a problem of weed invading pastures. Bigger groups of livestock should be formed in order to take to far pastures. Keeping livestock in barns will not benefit pastures improvement since forage will still be needed.

Ms. Inna Punda. Investments in the project will aim to buying only green technology equipment. Informing communities to keep funds in banks instead of investing in livestock is important, we will support to comply with all requirements.

Ms. Jiparkul Bekkulova. Certification of products, building laboratories to support export, green equipment such as drip irrigation, solar panels should be included in the project.

Ms. Mambetova A. Gender question, as well as support for businesswomen should be included.

Ms.Venera Surapaeva. Forestation is important, but research on whether trees will grow or not, status of lands, planting trees in emergency situations without changing status of a land should be done. Improving pastures via improving quality of livestock is included in the Kyrgyz Republic's Government "40 steps" program. The atlas could be a very effective tool in the project. FAO has a big experience and data on country forests that could be useful for the project.

Mr. Kauri Sparff. SFF lands in focus for planting trees, national legislation allows forestation on small areas. Improving forests around national parks, implementing best international and local practices, paying special attention to endangered endemic trees - in focus of the project.

Ms. Asyl Undeland. The project is in the design stage. More detailed work will be done on the ground: work on harmonization of legislature including all stakeholders.

Mr. Robert Bierkandt. Atlas tool and data should be available to public. Communities involvement in decision making process is important.

Mr. Bakyt Yrsaliev. MES project "Jashyl Dolboor" includes 600 thousand trees in areas with landslide danger. There is a problem of using different mapping systems in agencies which leads to different numbers on pasture borders. Government representatives in oblasts should be included in steering committees in order to work directly with oblast administrations.

Ms. Dinara Rahmanova. The project needs support from all stakeholders especially from government agencies.

Ms. Jiparkul Bekkulova. FAO brings real changes by different projects. No objection process in government agencies needs to be facilitated. Hope for future cooperation.

Participants

	Name	Organization
1	Duishenbieva	EcoTechInspection
2	Djitishikova	EcoTechInspection
3	Dyikanbai Kenjebaev	FAO/GEF
4	Abdymital Chyngojoev	FAO/GEF
5	Sulaiman Berdikeev	FAO
6	Sekimov A	MES
7	Kenjebaev T	MES
8	Tania Santivanez	FAO
9	Yoojin Jeong	FAO
10	Ben Norton	ARIS
11	Ruslan Ermatov	KyrgyzHydroMet
12	Kasymova M	KyrgyzHydroMet

13	Robert Bierkandt	KyrgyzHydroMet
14	Jacopo Monzini	FAO
15	Omurzakova Sh.	KyrgyzHydroMet
16	Barieva A	SAEPF
17	Salykmambetova B	SAEPF
18	Mambetova A	Ministry of social development
19	Karagulov A	MAFIM
20	Jakshylykova A	MAFIM
21	Elena Taranova	MAFIM
22	Mamyrov R	Climate Finance Center
23	Venera Surappaeva	SAEPF
24	Tommaso Alacevich	FAO
25	Bekkulova J	SAEPF
26	Aliev M	SAEPF
27	Dinara Rahmanova	FAO
28	Bakyt Yrsaliev	SAEPF
29	Kauri Sparff	FAO
30	Asyl Undeland	FAO
31	Cholpon Alibakieva	FAO/GEF
32	Cholpon Esenbekova	FAO
33	Karina Abdyldaeva	FAO
34	Inna Punda	FAO
35	Kurmanova G	KyrgyzHydroMet
36	Jen Stephens	FAO
37	Zoya Kretova	KyrgyzHydroMet
38	Daniar Akmataliev	FAO
39	Karymshakova G	Interpreter
40	Chokchonova B	Interpreter

ANNEX 4: FAO GUIDANCE DOCUMENT FOR PEST AND PESTICIDE MANAGEMENT IN FIELD PROJECTS

This document provides guidance on pest management and the selection and use of pesticides in FAO projects. Its objective is to reduce reliance on pesticides through promotion of Pest Management (PM) and to avoid that pesticides procured by FAO, or on the advice of FAO, cause harm to people, animals, plants or the environment. As such, it also serves to limit reputational risk and liabilities for FAO.

The outlined rules and procedures apply to all pesticide procurement, and advice on pesticide procurement, within the framework of FAO field projects, including emergency assistance and activities implemented by subcontractors. It involves an established procedure for mandatory clearance of such projects and activities by the Deputy Director AGP, as specified below.

Background

Pesticides require special attention because they are toxic and their distribution and use should always involve managing the risks to human health and the environment. Furthermore, inappropriate use of pesticides may reduce agricultural productivity and result in pesticide residue levels that become a constraint to marketability of crops both on domestic and export markets.

Although most countries have pesticide legislation, many may still lack capacity to ensure appropriate selection, management, use and disposal of pesticides. Circumstances in developing countries often make it difficult for farmers to follow recommended practices regarding personal protection, use and cleaning of application equipment, storage of pesticides, and disposal of obsolete pesticides and empty containers.

In many cases, use of pesticides is still unnecessarily high, uneconomic and unsustainable. Available non-chemical techniques and PM approaches often can help reduce pesticide use.

The overall framework for sound pest and pesticide management is provided by the FAO/WHO International Code of Conduct on Pesticide Management[34] and its accompanying technical guidelines.

Pest management

The protection of plants from pests is an integral part of agriculture. The presence of pests does not automatically require control measures, as pest populations are usually under some form of natural control and actual economic damage may be insignificant. When plant protection measures are deemed necessary, available non-chemical pest management techniques should be considered with preference before a decision is taken to use pesticides, even if the cost is higher or specialist inputs are required that make use of non-chemical options more complex.

Proper comparison of pest management strategies requires a full assessment of costs that takes into account additional private costs (e.g. personal protection, storage, health effects on users) and public costs (negative effects on public health and the environment).

Where possible, pest management strategies should be based on an PM approach. Pesticides should only be supplied following a detailed assessment of the actual field situation, the nature and the impact of the pest, and an evaluation of available pest management options.

Selection and procurement of pesticides

If pesticides are deemed to be the best or only available option, then careful and informed consideration should be given to the selection of pesticide products. Factors to be taken into account include efficacy

[34] AGPM Website: FAO/WHO International Code of Conduct on Pesticide Management (2014): http://www.fao.org/agriculture/crops/thematic-sitemap/theme/pests/code/en/

and likelihood of development or presence of resistance by the target organism. Overriding importance should be given to reducing negative effects on human health and the environment.

FAO does not maintain a list of permitted or non-permitted pesticides. However, in line with the provisions of the FAO/WHO International Code of Conduct on Pesticide Management and relevant multilateral environmental agreements that include pesticides, the following list of criteria will need to be met in order for a pesticide to be considered for use in an FAO project:

1. The product should not be subject to the Stockholm Convention on Persistent Organic Pollutants. The list of pesticides concerned can be found at: http://chm.pops.int.
2. The product should be registered in the country of use. If specified in the registration decision, the product should be permitted for the crop-pest combination concerned.
3. Users should be able to manage the product within margins of acceptable risk. This means that FAO will not supply pesticides that fall in WHO Hazard Class 1 or GHS Class 1 and 2. Pesticides that fall in WHO Hazard Class 2 or GHS Class 3 can only be provided if less hazardous alternatives are not available and it can be demonstrated that users adhere to the necessary precautionary measures[35].
4. Preference should be given to products that are less hazardous, more selective and less persistent, and to application methods that are less hazardous, better targeted and requiring less pesticides. Products listed in Annex III of the Rotterdam Convention should for instance be avoided.

Any international procurement of pesticides must abide with the provisions of the Rotterdam Convention on the Prior Informed Consent (PIC) Procedure for Certain Hazardous Chemicals and Pesticides in International Trade. Pesticides listed in Annex III of the Convention and subject to the PIC procedure, and requirements of the Convention, can be found at the website of the Secretariat of the Rotterdam Convention:

http://www.pic.int/Implementation/Pesticides/tabid/1359/language/en-US/Default.aspx

Pesticide management

The following requirements apply to all pesticides that are being supplied directly by FAO and to pesticides supplied by others within the framework of FAO projects.

1. Procurement of pesticides should be preceded by a thorough risk assessment, which should lead to adequate measures to reduce health and environmental risks to acceptable levels.
2. Quantities to be provided should be based on an accurate assessment of actual needs in order to avoid over-use or accumulation of stockpiles that may become obsolete. Pesticides should not be provided as fixed components of input packages of projects, credit schemes or emergency assistance.
3. Appropriate application equipment and protective gear should be provided in adequate quantities along with the pesticides, unless it is explicitly confirmed that the recommended equipment and gear is already sufficiently available.

[35] The hazard classification concerns the formulated product. Formulations with a low concentration of active ingredient are less hazardous than formulations with a high concentration of the same active ingredient. The WHO Recommended Classification of Pesticides by Hazard and Guidelines to Classification (http://www.who.int/ipcs/publications/pesticides_hazard/en/) classifies technical products based on acute oral and dermal toxicity. It includes a conversion table that allows determination of the hazard class for the pesticide formulation under consideration. Towards 2008, this list will be replaced by the Globally Harmonized System of Classification and Labelling of Chemicals, which in addition to acute toxicity also takes into consideration chronic health risks and environmental risks (http://www.unece.org/trans/danger/publi/ghs/ghs_welcome_e.html) The term "pesticide formulation" means the combination of various ingredients designed to render the product useful and effective for the purpose claimed; the form of pesticide as purchased by users. The term "active ingredient" means the biologically active part of the pesticide.

4. Training of users may be required to ensure they are capable of handling the supplied pesticides in a proper and responsible manner.
5. Proper storage of pesticides in accordance with FAO guidelines should be ensured for all supplies.

Clearance

The following documents and activities require clearance from the respective FAO Sub- and/or Regional Coordinator and Plant Protection Officer. Review and clearance of pesticide purchase requests including treated seeds and treatment of stored agricultural products will be carried out in close collaboration with FAO HQ based Pest and Pesticide Management Group (AGPMC) (c/o Senior Officer Pesticide Risk Reduction Group (AGPMC)):

- All orders for pesticides to be procured by FAO, regardless of whether bought through Headquarters order, field project order or local purchase.
- Project documents that envisage procurement of pesticides.
- Terminal reports for projects that involved pesticide supply.

Requests for clearance should be submitted to the respective FAO Sub-/Regional Coordinator and Plant Protection Officer (focal point for pesticides and crop protection). Requests for procurement of pesticides must include a completed Request for Procurement of Pesticides (Annex I: Pesticide check list) for each pesticide.
In addition, clearance must be obtained from the respective FAO Sub-/Regional Coordinator and Plant Protection Officer for any contemplated collaboration with a pesticide company or other entity of the pesticide industry (e.g.: in designing or implementing training). This in addition to the established general procedure for OPC approval of collaboration with the private sector as described in DGB 2014/14.

Conditions to be met for purchase and use of pesticides

For the purchase and use of any pesticide product, it must be assured, that the following conditions are met:

- The product must be registered in the *target country* by the respective national authority;
- The company providing the pesticide has to declare that they are observing the **FAO/WHO International Code of Conduct on Pesticide Management**, especially its provisions on labelling [36], as well as packaging and transport of pesticides;
- Individuals involved in applying the pesticide will be trained in the use of protective equipment, use of the pesticide application equipment and protection of health and the environment from exposure to pesticides;
- The protective equipment supplied to applicators complies with EC, US or appropriate internationally accepted standards;
- Suitable application equipment that permits pesticide applicators to apply the pesticide in the correct dose without causing human and environmental exposure, will be used or provided if it is not available;
- All empty pesticide containers will be triple rinsed and punctured in accordance with FAO guidelines [37]

[36] Reference to Guideline on Good labelling practice for pesticides: http://www.fao.org/ag/AGP/AGPP/Pesticid/Code/Download/label.pdf
[37] Reference to Guideline on Management options of empty pesticide containers : http://www.fao.org/fileadmin/templates/agphome/documents/Pests_Pesticides/Code/Containers08.pdf

If pesticides are to be purchased for seed treatment (seed storage chemical or seed treatment), the following conditions must be met:

At the seed treatment facility:

- Each pesticide seed treatment product must be cleared by AGP and must be registered in *Countries concerned* (*importing/exporting country*) by the relevant national authority/authorities.
- The company providing the pesticide has to declare that they are observing the **FAO/WHO International Code of Conduct on Pesticide Management**, especially its provisions on labelling, as well as packaging and transport of pesticides or pesticide-treated seeds.
- Users of seeds treated with pesticides must adhere to the necessary precautionary measures described on the product labels (e.g. wearing a protective mask, goggles and gloves).
- The treatment of seeds must be done in an appropriately equipped facility that ensures full containment of the pesticides.
- Users of seed treatment equipment should be provided with suitable application equipment and instructed on calibration, use and cleaning of the equipment.
- Treated seeds must be dyed using an unusual and unpalatable color to discourage consumption.
- All packages containing treated seeds must be clearly marked "*Not for human or animal consumption*" and with the skull and crossbones symbol for poison.

At the point of use of the treated seeds:

- Those handling treated seeds should be informed that the seeds are treated with pesticides which can have toxic effects on their health, the health of others and on the environment.
- Handlers should be advised to wear clothes that fully cover their body (long sleeves, long trousers/skirt and closed shoes), and -if not available- be provided with gloves and dust masks and instructed on their use and advised to wash themselves and their clothes after handling the seed.
- Packaging from treated seeds should not be reused for any purpose.

Further guidance

Further guidance on all aspects of pesticide distribution, handling and use, is provided by the International Code of Conduct on Pesticide Management, and the Technical Guidelines that have been produced in support of the Code itself (Copies are available from the AGPMC website: http://www.fao.org/agriculture/crops/core-themes/theme/pests/en/).

The Plant Production and Protection Department (AGPM) and Pest and Pesticide management group/Pesticide Risk Reduction team (AGPMC) and Sub-, Regional Plant Protection Officers will be available to provide further clarification.

ANNEX 5: FAO ENVIRONMENTAL AND SOCIAL SCREENING CHECKLIST

Environmental and Social Risk Identification – Screening Checklist

Annex 5.1: Trigger questions

	Question	YES	NO
1	Would this project: • result in the degradation (biological or physical) of soils or undermine sustainable land management practices; or • include the development of a large irrigation scheme, dam construction, use of waste water or affect the quality of water; or • reduce the adaptive capacity to climate change or increase GHG emissions significantly; or • result in any changes to existing tenure rights[38] (formal and informal[39]) of individuals, communities or others to land, fishery and forest resources?		
2	Would this project be executed in or around protected areas or natural habitats, decrease the biodiversity or alter the ecosystem functionality, use alien species, or use genetic resources?		
3	Would this project: • Introduce crops and varieties previously not grown, and/or; • Provide seeds/planting material for cultivation, and/or; • Involve the importing or transfer of seeds and or planting material for cultivation or research and development; • Supply or use modern biotechnologies or their products in crop production, and/or • Establish or manage planted forests?		
4	Would this project introduce non-native or non-locally adapted species, breeds, genotypes or other genetic material to an area or production system, or modify in any way the surrounding habitat or production system used by existing genetic resources?		
5	Would this project: • result in the direct or indirect procurement, supply or use of pesticides[40]: ▪ on crops, livestock, aquaculture, forestry, household; or ▪ as seed/crop treatment in field or storage; or ▪ through input supply programmes including voucher schemes; or ▪ for small demonstration and research purposes; or ▪ for strategic stocks (locust) and emergencies; or ▪ causing adverse effects to health and/or environment; or		

[38] Tenure rights are rights to own, use or benefit from natural resources such as land, water bodies or forests

[39] Socially or traditionally recognized tenure rights that are not defined in law may still be considered to be 'legitimate tenure rights'.

[40] Pesticide means any substance, or mixture of substances of chemical or biological ingredients intended for repelling, destroying or controlling any pest, or regulating plant growth.

	• result in an increased use of pesticides in the project area as a result of production intensification; or • result in the management or disposal of pesticide waste and pesticide contaminated materials; or • result in violations of the Code of Conduct?		
6	Would this project permanently or temporarily remove people from their homes or means of production/livelihood or restrict their access to their means of livelihood?		
7	Would this project affect the current or future employment situation of the rural poor, and in particular the labour productivity, employability, labour conditions and rights at work of self-employed rural producers and other rural workers?		
8	Could this project risk overlooking existing gender inequalities in access to productive resources, goods, services, markets, decent employment and decision-making? For example, by not addressing existing discrimination against women and girls, or by not taking into account the different needs of men and women.		
9	Would this project: • have indigenous peoples* living outside the project area[1] where activities will take place; or • have indigenous peoples living in the project area where activities will take place; or • adversely or seriously affect on indigenous peoples' rights, lands, natural resources, territories, livelihoods, knowledge, social fabric, traditions, governance systems, and culture or heritage (physical[2] and non-physical or intangible[3]) inside and/or outside the project area; or • be located in an area where cultural resources exist? * FAO considers the following criteria to identify indigenous peoples: priority in time with respect to occupation and use of a specific territory; the voluntary perpetuation of cultural distinctiveness (e.g. languages, laws and institutions); self-identification; an experience of subjugation, marginalization, dispossession, exclusion or discrimination (whether or not these conditions persist). [1]The phrase "Outside the project area" should be read taking into consideration the likelihood of project activities to influence the livelihoods, land access and/or rights of Indigenous Peoples' irrespective of physical distance. In example: If an indigenous community is living 100 km away from a project area where fishing activities will affect the river yield which is also accessed by this community, then the user should answer "YES" to the question. [2]Physical defined as movable or immovable objects, sites, structures, group of structures, natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic or other cultural significance located in urban or rural settings, ground, underground or underwater. [3]Non-physical or intangible defined as "the practices, representations, expressions, knowledge and skills as well as the instruments, objects, artifacts and cultural spaces associated therewith that communities, groups, and in some cases individuals, recognize as part of their spiritual and/or cultural heritage"		

Annex 5.2: Second Level Questions

SAFEGUARD 1 NATURAL RESOURCES MANAGEMENT

Question	Management of soil and land resources	No	Yes	Comments
1.1	Would this project result in the degradation (biological or physical) of soils	**LOW RISK**	**MODERATE RISK** Demonstrate how the project applies and adheres to the principles of the World Soil Charter	
1.2	Would this project undermine sustainable land management practices?	**LOW RISK**	**HIGH RISK** A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	

	Management of water resources and small dams	No	Yes	Comments
1.3	Would this project develop an irrigation scheme that is more than **20 hectares** or withdraws more than **1000 m3/day** of water?	**LOW RISK**	**MODERATE RISK** Specify the following information: a) implementation of appropriate efficiency principles and options to enhance productivity, b) technically feasible water conservation measures, c) alternative water supplies, d) resource contamination mitigation or/and avoidance, e) potential impact on water users downstream, f) water use offsets and demand management options to maintain total demand for	

			water resources within the available supply. g) The ICID-checklist will be included, as well as appropriate action within the project to mitigate identified potential negative impacts. h) Projects aiming at improving water efficiency **will carry out thorough water accounting** in order to avoid possible negative impacts such as waterlogging, salinity or reduction of water availability downstream.	
1.4	Would this project develop an irrigation scheme that is more than **100 hectares** or withdraws more than **5000 m3/day** of water?	**LOW RISK**	**HIGH RISK** A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	
1.5	Would this project aim at improving an irrigation scheme (without expansion)?	**LOW RISK**	**MODERATE RISK** The ICID-checklist will be included, as well as appropriate action within the project to mitigate identified potential negative impacts. Projects aiming at improving water efficiency **will carry out thorough water accounting** in order to avoid possible negative impacts such as waterlogging, salinity or reduction of water availability downstream.	

1.6	Would this project affect the quality of water either by the release of pollutants or by its use, thus affecting its characteristics (such as temperature, pH, DO, TSS or any other?	**LOW RISK**	**HIGH RISK** A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	
1.7	Would this project include the usage of wastewater?	**LOW RISK**	**MODERATE RISK** Demonstrate how the project applies and adheres to applicable national guidelines or, if not available, the WHO/FAO/UNEP Guidelines on Safe Usage of Waste Water in Agriculture	
1.8	Would this project involve the construction or financing of a dam that is more than **15 m**. in height?	**LOW RISK**	**CANNOT PROCEED**	
1.9	Would this project involve the construction or financing of a dam that is more than **5 m**. in height?	**LOW RISK**	**HIGH RISK** A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	

	Tenure	**No**	**Yes**	**Comments**
1.10	Would this project permanently or temporarily deny or restrict access to natural resources to which they have rights of access or use? Could this project result in any changes to existing *tenure rights*[1] (*formal and informal*[2]) of individuals, communities or others to land, fishery and forest resources?	**LOW RISK**	**PROCEED TO NEXT Q**	

	[1]Tenure rights are rights to own, use or benefit from natural resources such as land, water bodies or forests [2]Socially or traditionally recognized tenure rights that are not defined in law may still be considered to be 'legitimate tenure rights'.				
	1.10.1	Could this project result in a negative change to existing legitimate tenure rights?	**MODERATE RISK** Demonstrate how the project applies and adheres to the principles/framework of the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (VGGT)	**HIGH RISK** A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	
	Climate		**No**	**Yes**	**Comments**
1.11	Could this project result in a reduction of the adaptive capacity to climate change for any stakeholders in the project area?		**LOW RISK**	**HIGH RISK** A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	
1.12	Could this project result in a reduction		**LOW RISK**	**HIGH RISK**	

	of resilience against extreme weather events?			A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	
1.13	Could this project result in a net increase of GHG emissions beyond those expected from increased production?		**LOW RISK**	**PROCEED TO NEXT Q**	
	1.13.1	Is the expected increase below the level specified by FAO guidance or national policy/law (whichever is more stringent)?	**HIGH RISK** A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	**LOW RISK**	
	1.13.2	Is the expected increase above the level specified by FAO guidance or national policy/law (whichever is more stringent)?	**LOW RISK**	**HIGH RISK** A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	

SAFEGUARD 2 BIODIVERSITY, ECOSYSTEMS AND NATURAL HABITATS

	Protected areas, buffer zones or natural habitats	**No**	**Yes**
2.1	Would this project be implemented within a legally designated protected area or its buffer zone?	**LOW RISK**	**HIGH RISK** A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.

	Biodiversity Conservation	**No**	**Yes**	**Comments**

2.2	Would this project change a natural ecosystem to an agricultural/aquacultural/forestry production unit with a reduced diversity of flora and fauna?	**LOW RISK**	**HIGH RISK** A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	
2.3	Would this project increase the current impact on the surrounding environment for example by using more water, chemicals or machinery than previously?	**LOW RISK**	**MODERATE RISK** Demonstrate in the project document what measures will be taken to minimize adverse impacts on the environment and ensure that implementation of these measures is reported in the risk log during progress reports.	

	Use of alien species	**No**	**Yes**	**Comments**
2.4	Would this project use an alien species which has exhibited an invasive* behavior in the country or in other parts of the world or a species with unknown behavior? *An invasive alien species is defined by the Convention on Biological Diversity as "an alien species whose introduction and/or spread threaten biological diversity" (see https://www.cbd.int/invasive/terms.shtml).	**LOW RISK**	**HIGH RISK** A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	

	Access and benefit sharing for genetic resources	**No**	**Yes**	**Comments**

2.5	Would this project involve access to genetic resources for their utilization and/or access to traditional knowledge associated with genetic resources that is held by indigenous, local communities and/or farmers?	**LOW RISK**	**MODERATE RISK** Ensure that the following issues are considered and appropriate action is taken. The issues identified and the action taken to address them must be included in the project document and reported on in progress reports. For **plant genetic resources for food and agriculture (PGRFA) falling under the Multilateral System of Access and Benefit-sharing** (MLS) of the International Treaty on Plant Genetic Resources for Food and Agriculture (Treaty), ensure that Standard Material Transfer Agreement (SMTA) has been signed and comply with SMTA provisions. For **genetic resources, other than PGRFA falling under the MLS of the Treaty**: 1. Ensure that, subject to domestic access and benefit-sharing legislation or other regulatory requirements, prior informed consent has been granted by the country providing the genetic	

			resources that is the country of origin of the resources or that has acquired the resources in accordance with the Convention on Biological Diversity, unless otherwise determined by that country; and 2. Ensure that benefits arising from the utilization of the genetic resources as well as subsequent applications and commercialization are shared in a fair and equitable way with the country providing the genetic resources that is the country of origin of the resources or that has acquired the resources in accordance with the Convention on Biological Diversity; and 3. Ensure that, in accordance with domestic law, prior informed consent or approval and involvements of indigenous and local communities is obtained for access to genetic resources where the indigenous and local communities have the	

			established right to grant such resources; and 4. Ensure that, in accordance with domestic legislation regarding the established rights of these indigenous and local communities over the genetic resources, are shared in a fair and equitable way with the communities concerned, based on mutually agreed terms. For **traditional knowledge associated with genetic resources** that is held by indigenous and local communities: 1. Ensure, in accordance with applicable domestic law, that knowledge is accessed with the prior and informed consent or approval and involvement of these indigenous and local communities, and that mutually agreed terms have been established; and 2. Ensure that, in accordance with domestic law, benefits arising from the utilization of traditional knowledge associated with genetic	

			resources are shared, upon mutually agreed terms, in a fair and equitable way with indigenous and local communities holding such knowledge. Ensure that the project is aligned with the Elements to Facilitate Domestic Implementation of Access and Benefit Sharing for Different Subsectors of Genetic Resources for Food and Agriculture when it is the case	

SAFEGUARD 3 PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE

	Introduce new crops and varieties	**No**	**Yes**	**Comments**
3.1	Would this project Introduce crops and varieties previously not grown?	**LOW RISK**	**MODERATE RISK** • Follow appropriate phytosanitary protocols in accordance with IPPC • Take measures to ensure that displaced varieties and/or crops, if any, are included in the national or international *ex situ* conservation programmes	

	Provision of seeds and planting materials	**No**	**Yes**	**Comments**
3.2	Would this project provide seeds/planting material for cultivation?	**LOW RISK**	**PROCEED TO NEXT Q**	

	3.2.1	Would this project involve the importing or transfer of seeds and/or planting materials for cultivation?	**LOW RISK**	**MODERATE RISK** • Avoid undermining local seed & planting material production and supply systems through the use of seed voucher schemes, for instance • Ensure that the seeds and planting materials are from locally adapted crops and varieties that are accepted by farmers and consumers • Ensure that the seeds and planting materials are free from pests and diseases according to agreed norms, especially the IPPC • Internal clearance from AGPMG is required for all procurement of seeds and planting materials. Clearance from AGPMC is required for chemical treatment of seeds and planting materials • Clarify that the seed or planting material can be legally used in the country to which it is being imported • Clarify whether seed saving is permitted under the country's existing laws and/or regulations and advise the counterparts accordingly. • Ensure, according to applicable national laws and/or regulations, that farmers' rights to PGRFA and over associated traditional knowledge are respected in the access to PGRFA and the sharing of the benefits accruing from their use. Refer to ESS9: Indigenous peoples and cultural heritage.	
	3.2.2	Would this project involve the importing or	**LOW RISK**	**MODERATE RISK** Ensure compliance with Access and Benefit Sharing norms as stipulated in the International	

		transfer of seeds and/or planting materials for research and development?		Treaty on Plant Genetic Resources for Food and Agriculture and the Nagoya Protocol of the Convention on Biodiversity as may be applicable. Refer also to ESS2: Biodiversity, Ecosystems and Natural Habitats.	

	Modern biotechnologies and the deployment of their products in crop production	**No**	**Yes**	**Comments**
3.3	Would this project supply or use modern plant biotechnologies and their products?	**LOW RISK**	**MODERATE RISK** • Adhere to the Cartagena Protocol on Biosafety of the Convention on Biological Diversity to ensure the safe handling, transport and use of Living Modified Organisms (LMOs) resulting from modern biotechnology that may have adverse effects on biological diversity, taking also into account risks to human health. • Adhere to biosafety requirements in the handling of Genetically Modified Organisms (GMOs) or Living Modified Organisms (LMOs) according to national legislation or[41] • Take measures to prevent geneflow from the introduced varieties to existing ones and/or wild relatives	

	Planted forests	**No**	**Yes**	**Comments**
3.4	Would this project establish or manage planted forests?	**LOW RISK**	**MODERATE RISK** • Adhere to existing national forest policies, forest programmes or equivalent strategies.	

41 Food and Agriculture Organization of the United Nations. 2011. Biosafety Resource Book. Rome, http://www.fao.org/docrep/014/i1905e/i1905e00.htm

			• The observance of principles 9, 10, 11 and 12 of the Voluntary Guidelines on Planted Forests suffice for indigenous forests but must be read in full compliance with ESS 9- Indigenous People and Cultural Heritage. • Planners and managers must incorporate conservation of biological diversity as fundamental in their planning, management, utilization and monitoring of planted forest resources. • In order to reduce the environmental risk, incidence and impact of abiotic and biotic damaging agents and to maintain and improve planted forest health and productivity, FAO will work together with stakeholders to develop and derive appropriate and efficient response options in planted forest management.	

SAFEGUARD 4 ANIMAL (LIVESTOCK AND AQUATIC) GENETIC RESOURCES FOR FOOD AND AGRICULTURE

	Introduce new species/breeds and change in the production system of locally adapted breeds	**No**	**Yes**	**Comments**
4.1	Would this project introduce non-native or non-locally adapted species, breeds, genotypes or other genetic material to an area or production system?	**LOW RISK**	**PROCEED TO NEXT Q**	

	4.1.1	Would this project foresee an increase in production by at least 30% (due to the introduction) relative to currently available locally adapted breeds and can monitor production performance?	**CANNOT PROCEED**	**LOW RISK**	
	4.1.2	Would this project introduce genetically altered organisms, e.g. through selective breeding, chromosome set manipulation, hybridization, genome editing or gene transfer and/or introduce or use experimental	**LOW RISK**	**HIGH RISK** A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	

		genetic technologies, e.g. genetic engineering and gene transfer, or the products of those technologies?			
4.2	Would this project introduce a non-native or non-locally adapted species or breed for the first time into a country or production system?		**LOW RISK**	**MODERATE RISK** A genetic impact assessment should be conducted prior to granting permission to import (cover the animal identification, performance recording and capacity development that allow monitoring of the introduced species/ breeds' productivity, health and economic sustainability over several production cycles) • http://www.fao.org/docrep/012/i0970e/i0970e00.htm • ftp://ftp.fao.org/docrep/fao/012/i0970e/i0970e03.pdf	
4.3	Would this project introduce a non-native or non-locally adapted species or breed, independent whether it already exists in the country?		**LOW RISK**	**MODERATE RISK** • If the project imports or promotes species/breeds with higher performance than locally adapted ones, ensure: feed resources, health management, farm management capacity, input supply and farmer organization to allow the new species/breeds to express their genetic potential	

			• Follow the OIE terrestrial or aquatic code to ensure the introduced species/breed does not carry different diseases than the local ones • Include a health risk assessment and farmer/veterinary capacity development in the project to ensure the introduced species/breed do not have different susceptibility to local diseases including ecto-and endo-parasites than the locally adapted/native species/breeds.	
4.4	Would this project ensure there is no spread of the introduced genetic material into other production systems (i.e. indiscriminate crossbreeding with locally adapted species/breeds)?	**MODERATE RISK** Introduce a) animal identification and recording mechanism in the project and b) develop new or amend existing livestock policy and National Strategy and Action	**LOW RISK**	

		Plan for AnGR		

	Collection of wild genetic resources for farming systems	No	Yes	Comments
4.5	Would this project collect living material from the wild, e.g. for breeding, or juveniles and eggs for ongrowing?	**LOW RISK**	**MODERATE RISK** Guidance to be provided	

	Modification of habitats		No	Yes	Comments
4.6	Would this project modify the surrounding habitat or production system used by existing genetic resources?		**LOW RISK**	**MODERATE RISK** Guidance to be provided	
4.7	Would this project be located in or near an internationally recognized conservation area e.g. Ramsar or World Heritage Site, or other nationally important habitat, e.g. national park or high nature value farmland?		**LOW RISK**	**MODERATE RISK** Guidance to be provided	
4.8	**AQGR**	Would this project block or create migration routes	**LOW RISK**	**MODERATE RISK** Guidance to be provided	

		for aquatic species?			
4.9		Would this project change the water quality and quantity in the project area or areas connected to it?	**LOW RISK**	**MODERATE RISK** Guidance to be provided	
4.10	Would this project cause major habitat / production system changes that promote new or unknown chances for geneflow, e.g. connecting geographically distinct ecosystems or water bodies; or would it disrupt habitats or migration routes and the genetic structure of valuable or locally adapted species/stocks/breeds?		**LOW RISK**	**HIGH RISK** A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	
4.11	Would this project involve the intensification of production systems that leads to land- use changes (e.g. deforestation), higher nutrient inputs leading to soil or water pollution,		**LOW RISK**	**MODERATE RISK** Guidance to be provided	

	changes of water regimes (drainage, irrigation)?			

SAFEGUARD 5 PEST AND PESTICIDES MANAGEMENT

	Supply of pesticides by FAO	No	Yes	Comments
5.1	Would this project procure, supply and/or result in the use of pesticides on crops, livestock, aquaculture or forestry?	**LOW RISK**	**MODERATE RISK** • Preference must always be given to sustainable pest management approaches such as Integrated Pest Management (IPM), the use of ecological pest management approaches and the use of mechanical/cultural/physical or biological pest control tools in favour of synthetic chemicals; and preventive measures and monitoring, • When no viable alternative to the use of chemical pesticides exists, the selection and procurement of pesticides is subject to an internal clearance procedure http://www.fao.org/fileadmin/templates/agphome/documents/Pests_Pesticides/Code/E_SS5_pesticide_checklist.pdf • The criteria specified in FAO's ESM Guidelines under ESS5 must be adhered to and should be included or referenced in the project document.	

			• If large volumes (above 1,000 litres of kg) of pesticides will be supplied or used throughout the duration of the project, a Pest Management Plan must be prepared to demonstrate how IPM will be promoted to reduce reliance on pesticides, and what measures will be taken to minimize risks of pesticide use. • It must be clarified, which person(s) within (executing) involved institution/s, will be responsible and liable for the proper storage, transport, distribution and use of the products concerned in compliance with the requirements.	
5.2	Would this project provide seeds or other materials treated with pesticides (in the field and/or in storage) ?	**LOW RISK**	**MODERATE RISK** The use of chemical pesticides for seed treatment or storage of harvested produce is subject to an internal clearance procedure [http://www.fao.org/fileadmin/templates/agphome/documents/Pests_Pesticides/Code/E_SS5_pesticide_checklist.pdf]. The criteria specified in FAO's ESM Guidelines under ESS5 for both pesticide supply and seed treatment must be adhered to and should be included or referenced in the project document.	
5.3	Would this project provide inputs to farmers directly or through voucher schemes?	**LOW RISK**	**MODERATE RISK** • FAO projects must not be responsible for exposing people or the	

			environment to risks from pesticides. The types and quantities of pesticides and the associated application and protective equipment that users of a voucher scheme are provided with must always comply with the conditions laid out in ESS5 and be subject to the internal clearance procedure [link]. These must be included or referenced in the project document. • Preference must always be given to sustainable pest management approaches such as Integrated Pest Management (IPM), the use of ecological pest management approaches and the use of mechanical or biological pest control tools in favour of synthetic chemicals	
5.4	Would this project lead to increased use of pesticides through intensification or expansion of production?	**LOW RISK**	**MODERATE RISK** Encourage stakeholders to develop a Pest Management Plan to demonstrate how IPM will be promoted to reduce reliance on pesticides, and what measures will be taken to minimize risks of pesticide use. This should be part of the sustainability plan for the project to prevent or mitigate other adverse environmental and social impacts resulting from production intensification.	
5.5	Would this project manage or dispose of waste pesticides, obsolete	**LOW RISK**	**HIGH RISK** A full environmental and social impact assessment is required.	

	pesticides or pesticide contaminated waste materials?		Please contact the ESM unit for further guidance.	

SAFEGUARD 6 INVOLUNTARY RESETTLEMENT AND DISPLACEMENT

		No	Yes	Comments
6.1	Would this removal* be voluntary? *temporary or permanent removal of people from their homes or means of production/livelihood or restrict their access to their means of livelihoods	**CANNOT PROCEED**	**HIGH RISK** A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	

SAFEGUARD 7 DECENT WORK

		No	Yes	Comments
7.1	Would this project displace jobs? (e.g. because of sectoral restructuring or occupational shifts)	**LOW RISK**	**HIGH RISK** A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	
7.2	Would this project operate in sectors or value chains that are dominated by subsistence producers and other vulnerable informal agricultural workers, and more generally characterized by high levels “working poverty”?	**LOW RISK**	**MODERATE RISK** Take action to anticipate the likely risk of perpetuating poverty and inequality in socially unsustainable agriculture and food systems. Decent work and productive employment should appear among the priorities of the project or, alternatively, the project should establish synergies with specific employment and social protection programmes e.g. favouring access to some social protection scheme or form of social	

			insurance. Specific measures and mechanisms should be introduced to empower in particular the most vulnerable /disadvantaged categories of rural workers such as small-scale producers, contributing family workers, subsistence farmers, agricultural informal wage workers, with a special attention to women and youth who are predominantly found in these employment statuses. An age- and gender-sensitive social value chain analysis or livelihoods/employment assessment is needed for large-scale projects.	
7.3	Would this project operate in situations where youth work mostly as unpaid contributing family workers, lack access to decent jobs and are increasingly abandoning agriculture and rural areas?	**LOW RISK**	**MODERATE RISK** Take action to anticipate likely risk of unsustainably ageing agriculture and food systems by integrating specific measures to support youth empowerment and employment in agriculture. A youth livelihoods/employment assessment is needed. Complementary measures should be included aiming at training youth, engaging them and their associations in the value chain, facilitating their access to productive resources, credit and markets, and stimulating youth- friendly business development services.	
7.4	Would this project operate in situations where major gender inequality in the labour market prevails? (e.g. where women tend to work predominantly as unpaid contributing family members or subsistence farmers, have	**LOW RISK**	**MODERATE RISK** Take action to anticipate likely risk of socially unsustainable agriculture and food systems by integrating specific measures to reduce gender inequalities and promote rural women's social and economic empowerment. A specific social value chain analysis or livelihoods/employment assessment is needed for large-scale projects.	

	lower skills and qualifications, lower productivity and wages, less representation and voice in producers' and workers' organizations, more precarious contracts and higher informality rates, etc.)		Facilitation should be provided for women of all ages to access productive resources (including land), credit, markets and marketing channels, education and TVET, technology, collective action or mentorship. Provisions for maternity protection, including child care facilities, should be foreseen to favour women participation and anticipate potential negative effects on child labour, increased workloads for women, and health related risks for pregnant and breastfeeding women.	
7.5	Would this project operate in areas or value chains with presence of labour migrants or that could potentially attract labour migrants?	**LOW RISK**	**MODERATE RISK** Take action to anticipate potential discrimination against migrant workers, and to ensure their rights are adequately protected, with specific attention to different groups like youth, women and men.	

		No	Yes	Comments
7.6	Would this project directly employ workers?	**LOW RISK**	**MODERATE RISK** FAO projects will supposedly guarantee employees' rights as per UN/FAO standards as regards information on workers' rights, regularity of payments, etc. Decisions relating to the recruitment of project workers are supposed to follow standard UN practices and therefore not be made on the basis of personal characteristics unrelated to inherent job requirements. The employment of project workers will be based on the principle of equal opportunity and fair treatment, and there will be no discrimination with respect to any aspects of the employment relationship, such as recruitment and hiring, compensation (including wages and benefits),	

			working conditions and terms of employment, access to training, job assignment, promotion, termination of employment or retirement, etc.	
7.7	Would this project involve sub-contracting?	**LOW RISK**	**MODERATE RISK** Take action to anticipate likely risk of perpetuating inequality and labour rights violations by introducing complementary measures. FAO projects involving sub-contracting should promote, to the extent possible, subcontracting to local entrepreneurs – particularly to rural women and youth – to maximize employment creation under decent working conditions. Also, FAO should monitor and eventually support contractors to fulfil the standards of performance and quality, taking into account national and international social and labour standards.	

		No	Yes	Comments
7.8	Would this project operate in a sector, area or value chain where producers and other agricultural workers are typically exposed to significant occupational and safety risks[42]?	**LOW RISK**	**MODERATE RISK** Take action to anticipate likely OSH risks by introducing complementary provisions on OSH within the project. Project should ensure all workers' safety and health by adopting minimum OSH measures and contributing to improve capacities and mechanisms in place for OSH in informal agriculture and related occupations. For example, by undertaking a simple health and safety risk assessment, and supporting implementation of the identified risk control measures. Awareness raising and capacity development activities on the	

[42] Major OSH risks in agriculture include: dangerous machinery and tools; hazardous chemicals; toxic or allergenic agents; carcinogenic substances or agents; parasitic diseases; transmissible animal diseases; confined spaces; ergonomic hazards; extreme temperatures; and contact with dangerous and poisonous animals, reptiles and insects.

			needed gender-responsive OSH measures should be included in project design to ensure workers' safety and health, including for informal workers. Complementary measures can include measures to reduce risks and protect workers, as well as children working or playing on the farm, such as alternatives to pesticides, improved handling and storage of pesticides, etc. Specific provisions for OSH for pregnant and breastfeeding women should be introduced. FAO will undertake periodic inspections and a multistakeholder mechanism for monitoring should be put in place.	
7.9	Would this project provide or promote technologies or practices that pose occupational safety and health (OSH) risks for farmers, other rural workers or rural populations in general?	**LOW RISK**	**HIGH RISK** A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	

		No	Yes	Comments
7.10	Would this project foresee that children <u>below</u> the nationally-defined minimum employment age (usually 14 or 15 years old) will be involved in project-supported activities?	**LOW RISK**	**CANNOT PROCEED**	
7.11	Would this project foresee that children <u>above</u> the	**LOW RISK**	**MODERATE RISK** Take action to anticipate likely risk of engaging young people aged 14-17 in child	

	nationally-defined minimum employment age (usually 14 or 15 years old), but under the age of 18 will be involved in project-supported activities?		labour[43] by changing design or introducing complementary measures. For children of 14 to 17 years, the possibility to complement education with skills-training and work is certainly important for facilitating their integration in the rural labour market. Yet, children under the age of 18 should not be engaged in work-related activities in connection with the project in a manner that is likely to be hazardous or interfere with their compulsory child's education or be harmful to the child's health, safety or morals. Where children under the age of 18 may be engaged in work-related activities in connection with the project, an appropriate risk assessment will be conducted, together with regular monitoring of health, working conditions and hours of work, in addition to the other requirement of this ESS. Specific protection measures should be undertaken to prevent any form of sexual harassment or exploitation at work place (including on the way to and from), particularly those more vulnerable, i.e. girls.	
7.12	Would this project operate in a value chain where there have been reports of child labour?	**LOW RISK**	**HIGH RISK** A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	

[43] Child labour is defined as work that is inappropriate for a child's age, affects children's education, or is likely to harm their health, safety or morals. Child labour refers to working children below the nationally-defined minimum employment age, or children of any age engaging in hazardous work. Hazardous work is work that is likely to harm the health, safety or morals of a child. This work is dangerous or occurs under unhealthy conditions that could result in a child being killed, or injured and/or made ill as a consequence of poor health and safety standards and working arrangements. Some injuries or ill health may result in permanent disability. Countries that have ratified ILO Convention No.182 are obligated to develop National lists of hazardous child labour under Article 4.

		No	Yes	Comments
7.13	Would this project operate in a value chain or sector where there have been reports of forced labour[44]?	**LOW RISK**	**HIGH RISK** A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	

[44] Forced labour is employed, consists of any work or service not voluntarily performed that is exacted from an individual under threat of force or penalty. It includes men, women and children in situations of debt bondage, suffering slavery-like conditions or who have been trafficked. "In many countries, agricultural work is largely informal, and legal protection of workers is weak. In South Asia, there is still evidence of bonded labour in agriculture, resulting in labour arrangements where landless workers are trapped into exploitative and coercive working conditions in exchange for a loan. The low wages associated with high interest rates make it quite difficult for whole families to escape this vicious circle. In Africa, the traditional forms of "vestiges of slavery" are still prevalent in some countries, leading to situations where whole families (adults and children, men and women) are forced to work the fields of landowners in exchange for food and housing. In Latin America, the case of workers recruited in poor areas and sent to work on plantations or in logging camps has been widely documented by national inspection services and other actors." (ILO, Profits and poverty: the economics of forced labour / International Labour Office. - Geneva: ILO, 2014)

SAFEGUARD 8 GENDER EQUALITY

		No	Yes	Comments
8.1	Could this project risk reinforcing existing gender-based discrimination, by not taking into account the specific needs and priorities of women and girls?	**LOW RISK**	**MODERATE RISK** Take action to anticipate likely risk of perpetuating or reinforcing inequality by conducting a gender analysis to identify specific measures to avoid doing harm, provide equal opportunities to men and women, and promote the empowerment of women and girls.	
8.2	Could this project not target the different needs and priorities of women and men in terms of access to services, assets, resources, markets, and decent employment and decision-making?	**LOW RISK**	**MODERATE RISK** Take action to anticipate likely risk of socially unsustainable agriculture practices and food systems by conducting a gender analysis to identify the specific needs and priorities of men and women, and the constraints they may face to fully participate in or benefit from project activities, and design specific measures to ensure women and men have equitable access to productive resources and inputs.	

SAFEGUARD 9 INDIGENOUS PEOPLES AND CULTURAL HERITAGE

		No	Yes	Comments
9.1	Are there *indigenous peoples** living *outside the project area*** where activities will take place?[45]?	**LOW RISK**	**GO TO NEXT QUESTION**	

* FAO considers the following criteria to identify indigenous peoples: priority in time with respect to occupation and use of a specific territory; the voluntary perpetuation of cultural distinctiveness (e.g. languages, laws and institutions); self-identification; an experience of subjugation, marginalization, dispossession, exclusion or discrimination (whether or not these conditions persist).

	9.1.1	Do the project activities influence the Indigenous Peoples living outside the project area?	**LOW RISK**	**MODERATE RISK** A Free, Prior and Informed Consent Process is required Project activities should outline actions to address and mitigate any potential impact Please contact the ESM/OPCA unit for further guidance.	
9.2	Are there indigenous peoples living in the project area where activities will take place?		**LOW RISK**	**MODERATE RISK** A Free Prior and Informed Consent process is required. **If the project is for indigenous peoples,** an Indigenous Peoples' Plan is required in addition to the Free Prior and Informed Consent process. Please contact the ESM/OPCA unit for further guidance. **In cases where the project is for both, indigenous and non-indigenous peoples,** an Indigenous Peoples' Plan will be required only if a substantial number of beneficiaries are Indigenous Peoples. project activities should outline actions to address and mitigate any potential impact. Please contact ESM/OPCA unit for further guidance. A Free, Prior and Informed Consent Process is required	

** The phrase "Outside the project area" should be read taking into consideration the likelihood of project activities to influence the livelihoods, land access and/or rights of Indigenous Peoples' irrespective of *physical distance*. In example: If an indigenous community is living 100 km away from a project area where fishing activities will affect the river yield which is also accessed by this community, then the user should answer "YES" to the question

9.3	Would this project adversely or seriously affect on indigenous peoples' rights, lands, natural resources, territories, livelihoods, knowledge, social fabric, traditions, governance systems, and culture or heritage (*physical** and *non-physical or intangible***) inside and/or outside the project area? **Physical defined as movable or immovable objects, sites, structures, group of structures, natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic or other cultural significance located in urban or rural settings, ground, underground or underwater.* ***Non-physical or intangible defined as "the practices, representations, expressions, knowledge*	**LOW RISK**	**HIGH RISK** A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	

	and skills as well as the instruments, objects, artifacts and cultural spaces associated therewith that communities, groups, and in some cases individuals, recognize as part of their spiritual and/or cultural heritage"			
9.4	Would this project be located in an area where cultural resources exist?	**LOW RISK**	**MODERATE RISK** To preserve cultural resources (when existing in the project area) and to avoid their destruction or damage, due diligence must be undertaken to: a) verify that provisions of the normative framework, which is usually under the oversight of a national institution responsible for protection of historical and archaeological sites/intangible cultural heritage; and b) through collaboration and communication with indigenous peoples' own governance institutions/leadership, verifying the probability of the existence of sites/ intangible cultural heritage that are significant to indigenous peoples. In cases where there is a high chance of encountering physical cultural resources, the bidding documents and contract for any civil works must refer to the need to include recovery of "chance	

			findings" in line with national procedures and rules.	