REPUBLIC OF TAJIKISTAN

STRENGTHENING RESILIENCE OF THE AGRICULTURAL SECTOR PROJECT

ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK

(ESMF)

August 2026

ABBREVIATIONS AND ACRONYMS

ACP	Agriculture Commercialization Project
ALC	Agro-Logistics Centre
ARAP	Abbreviated Resettlement Action Plan
CC	Civil Code
COVID-19	Coronavirus Disease 2019
CSA	Climate-Smart Agriculture
DCM	Decree of the Cabinet of Ministers
DDR	Due Diligence Report
DMS	Detailed Measurement Survey
DSEI	Draft Statement of Environmental Impact
EA	Executing Agency
EHS	Environment, Health and Safety
EHSG	World Bank Group Environmental, Health and Safety Guidelines
EIA	Environmental Impact Assessment
ES	Environmental Specialist
ESA	Environmental and Social Assessment
ESIA	Environmental and Social Impact Assessment
ESF	World Bank Environmental and Social Framework
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESS	World Bank Environmental and Social Standard
FAO	Food and Agriculture Organization of the United Nations
FS	Feasibility Study
FSCPP	Food Security Crisis Preparedness Plan
GBAO	Gorno-Badakhshan Autonomous Oblast
GBV	Gender-Based Violence
GHG	Greenhouse Gas
GoT	Government of the Republic of Tajikistan
GRM	Grievance Redress Mechanism
H&S	Health and Safety
HH	Household
ICT	Information and Communication Technologies
IFIs	International Financial Institutions
IP	Indigenous Peoples
IPC	Integrated Food Security Phase Classification
IPM	Integrated Pest Management
IPMP	Integrated Pest Management Plan
IR	Involuntary Resettlement
LAR	Land Acquisition and Resettlement
LC	Land Code
LMP	Labour Management Procedures

MAM	Moderate / Acute Malnutrition
MHSPP	Ministry of Health and Social Protection of the Population
MoA	Ministry of Agriculture
MoINT	Ministry of Industry and New Technologies
MOLME	Ministry of Labour, Migration and Employment of the Population
MSME	Micro, Small and Medium Enterprises
NGO	Non-Governmental Organization
NRFP	National Revolving Fund for Premixes
OHS	Occupational Health and Safety
OP	Operational Policy
PAP	Project-Affected Person
PCB	Polychlorinated Biphenyl
PCR	Physical Cultural Resources
PHC	Primary Health Care
PIU	Project Implementation Unit
PMP	Pest Management Plan
POM	Project Operations Manual
PPE	Personal Protective Equipment
R&D	Research and Development
RAP	Resettlement Action Plan
RDS	Districts of Republican Subordination
REDP	Rural Economy Development Project
RPF	Resettlement Policy Framework
RT	Republic of Tajikistan
RUTF	Ready-to-Use Therapeutic Food
RWG	Regional Working Groups
CEP	Committee for Environmental Protection under the Government of the Republic of Tajikistan
SAM	Severe Acute Malnutrition
SEA/SH	Sexual Exploitation and Abuse / Sexual Harassment
SEE	State Ecological Expertise
SEI	Statement of Environmental Impact
SEP	Stakeholder Engagement Plan
SIA	Social Impact Assessment
SS	Social Specialist
TA	Technical Assistance
TAAS	Tajik Academy of Agricultural Sciences
TAU	Tajik Agrarian University
TJS	Tajik Somoni
TOR	Terms of Reference
TOT	Transfer of Technology
TPM	Third-Party Monitoring
USD	United States Dollar
WB	World Bank
WBG	World Bank Group

Table of contents

I. Explanatory note....6
II. PROJECT DESCRIPTION....12
2.1. Project components....12
2.2. Project beneficiaries....19
2.3. Scope and objectives of the Environmental and Social Framework Document....19
III. REGULATORY FRAMEWORK FOR ENVIRONMENTAL AND SOCIAL ASSESSMENT....22
3.1. National environmental legislation and procedures of the Republic of Tajikistan....22
3.1.2. Regulatory framework in the field of environmental assessment....32
3.1.3 Requirements for environmental assessment in the Republic of Tajikistan....33
3.1.4. EIA procedure....35
3.2. Key National Social Legal Provisions and Citizen Engagement....35
3.3. Compliance with the legislative framework on social aspects....36
3.4. National Sectoral Regulatory Framework....37
3.5. International Treaties and Obligations....39
3.6. FAO Requirements....40
3.7. World Bank Environmental and Social Standards and Requirements....40
IV. NATIONAL INSTITUTIONAL STRUCTURE....48
4.1. National institutions involved in the environmental sector....48
V. BACKGROUND INFORMATION....52
5.1. Material resources....52
5.2. Environmental Resources....61
5.3. Socio-economic characteristics....66
5.3.1 Population....66
5.3.2 Economy....66
5.3.3 Migration and employment by gender....67
5.3.4 The Role of Women in Agriculture: Gender Action Plan....68
5.3.5 Forced and child labour in agriculture: cotton production....71
5.3.6 Poverty and vulnerability....75
VI. ENVIRONMENTAL AND SOCIAL IMPACTS OF THE PROJECT....76
6.1. Potential environmental impacts and risks....76
6.2. Impacts on biodiversity....83
6.3 Potential social impacts and risks....84
6.3.1 Impact of resettlement....84
6.3.2 Risks of social exclusion....84
6.3.3 Labor risks....85
6.3.4 Worker and community health and safety....85
6.4. Mitigation measures....86
6.4.1. Safety precautions for the use and handling of treated seeds....86

6.4.2. Safety measures for the use and handling of mineral fertilizers 88
6.4.3. Mitigating the potential impacts of pest control.....89
6.4.4. Institutional capacity to comply with the new ESAs.....90
VII. RULES AND PROCEDURES FOR ENVIRONMENTAL AND SOCIAL ASSESSMENT 139
7.1. Environmental assessment procedure.....140
7.1.1. Main stages of the national procedure for e-learning.....140
7.2. Social assessment procedures.....142
VIII. INSTITUTIONAL ARRANGEMENTS AND CAPACITIES FOR THE IMPLEMENTATION OF THE AREPS.....**Ошибка! Закладка не определена.**
8.1. Project Coordination.....**Ошибка! Закладка не определена.**
8.2. Institutional capacity-building activities on ESMP .....**Ошибка! Закладка не определена.**
IX. MONITORING AND REPORTING ACTIVITIES.....147
9.1. General requirements for environmental and social monitoring and reporting..... **Ошибка! Закладка не определена.**
9.2. Environmental and Social Monitoring .....**Ошибка! Закладка не определена.**
9.3. Environmental and Social Performance Reporting .....**Ошибка! Закладка не определена.**
9.4. Occupational Health and Safety (OHS) Reporting.....**Ошибка! Закладка не определена.**
9.5. Integration of the RALRS into the project documentation.**Ошибка! Закладка не определена.**
X. GRIEVANCE MECHANISM .....**Ошибка! Закладка не определена.**
10.1. Grievance Redress Mechanisms (GRMs).....**Ошибка! Закладка не определена.**
10.2. Monitoring and reporting of complaints.....**Ошибка! Закладка не определена.**
10.3 World Bank Grievance Service .....**Ошибка! Закладка не определена.**
XI. PROMULGATION RDOOSV AND PUBLIC CONSULTATIONS ..... **Ошибка! Закладка не определена.**
Annex 1: PEST MANAGEMENT PLAN.....**Ошибка! Закладка не определена.**
(Updated version with Second Additional Funding – DF-2).....**Ошибка! Закладка не определена.**
Appendix 2. .....**Ошибка! Закладка не определена.**
CHECKLIST OF PRELIMINARY SOCIAL ASSESSMENT (SCREENING)..... **Ошибка! Закладка не определена.**
Annex 3: INDICATIVE OUTLINE OF THE CONTENT OF ESIA/SWEEP ..... **Ошибка! Закладка не определена.**
Annex 4: ENVIRONMENT AND SOCIAL AFFAIRS PLAN(example)..... **Ошибка! Закладка не определена.**
Annex 5: PLAN CHECKLISTENVIRONMENT AND SOCIAL AFFAIRS ..... **Ошибка! Закладка не определена.**

I. Explanatory note

1. ***Justification of the project.*** The impact on agricultural production in 2020 was tempered by the fact that agricultural inputs for cultivation in the spring were purchased by farmers before the COVID-19 outbreak. However, the negative impact is expected to be much more significant on agricultural production in 2021. During the COVID-19 pandemic, the Government of the Republic of Tajikistan did not have real-time information on food stocks or the structure of actual planted areas in order to ensure subsequent planting campaigns, as well as to respond to the crisis in a timely and effective manner. All of this has exacerbated the adverse impact of the decline in the purchasing power of the population as a result of job losses and remittances used to ensure food security and nutrition. In response, the Government of the Republic of Tajikistan is currently launching the proposed AED

2. Ongoing geopolitical developments, in addition to the previous negative impacts of the COVID-19 pandemic, pose a serious risk to food security in the Republic of Tajikistan. Over the past two years, there has been a significant increase in domestic food prices, including beef (26.5%), lamb (31.4%), poultry meat (32.6%), corn (29%), wheat (26%), flour (40%), vegetable oils (92%), and sugar (63%). In response, the Government of the Republic of Tajikistan has requested additional financing (AF) in the amount of $50.0 million. (IDA grant 20E1450-TJ dated November 29, 2022) to support emergency measures that improve food and nutrition security, as well as to scale up long-term development activities under the Tajikistan AED. The total cost of the project has been increased from $58.0 million to $108.0 million. USD.

3. Project objective. The proposed project aims to ensure the resilience of the agricultural sector, improve domestic food security, strengthen the framework for improving the production and export competitiveness of the developing horticulture industry, and enhance the capacity of the Ministry of Agriculture and other relevant government agencies in early warning and crisis preparedness and response. This project will also contribute to the development of a sustainable sector of private micro, small and medium-sized enterprises (MSMEs) in rural areas and create employment opportunities in regions with little or no other possible alternatives. The objective of the development of additional financing is to strengthen the foundations of a more sustainable agricultural sector and support emergency interventions to ensure food security and nutrition in Tajikistan. The additional financing supports: (i) the procurement and distribution of seeds, fertilizers and small agricultural machinery to vulnerable rural households; (ii) the rehabilitation of existing small-scale irrigation systems; (iii) the expansion of the network of agro-logistics centers; and (iv) improving nutritional outcomes, including through food fortification and the provision of micronutrients and vitamins to pregnant women and children.

4. In April 2026, the Government of the Republic of Tajikistan requested a $**30.0 million** Second Additional Financing (AF2) to address the financial gap resulting from a 25 to 30 percent increase in actual costs compared to the original 2020 estimates, as well as to extend the Project implementation period until **June 30, 2029**. The total cost of the Project has been increased from $108.0 **million to $138.0 million**The BF2 does not envisage the introduction of new activities and is aimed solely at ensuring the completion of all activities approved under the initial funding and AF1, including: (i) the completion of activities to improve seed production and support the Integrated Rice and Fish Farming System; (ii) completion of the construction and equipping of five agro-logistics centres (ALCs), including ALCs in Dangara and Khorog; (iii) ensuring the operation of the National Revolving Premix Fund (NRPF) and continuation of locust control activities; (iv) covering the costs of managing the Project during the extended implementation period.A

5. **Project description.** The project will consist of four components:

6. Component 1: Improvement of Seed, Seedling and Planting Material Systems aims to increase the availability of improved seeds, seedlings and planting material preferred by farmers and well adapted to the different agro-ecological conditions of the Republic of Tajikistan. This component aims to achieve this goal by supporting the regulatory framework, conducting research and development, reproduction and quality assurance of seeds, seedlings and planting material. The component will also support the development of small-scale irrigation, in particular the rehabilitation of existing irrigation systems, including the installation of energy-efficient irrigation pumps, the replacement of obsolete, failed pumping units, and the small-scale (emergency) rehabilitation of inter-farm and on-farm irrigation infrastructure

(budget $4.0 million). The component also includes emergency operations for the purchase and distribution of seeds, seedlings, planting material, fertilizers and small agricultural machinery to vulnerable rural households, including women.

7. Component 2: Support investments in agro-logistics centres (ALCs) to improve value chains in the horticulture sector. This component will finance improved access of farmers and agribusinesses to improved agro-logistics services. Investments in ALCs will help build sustainable food systems, promote diversification, ensure improved market linkages, food quality and safety standards, reduce food loss and waste, and initiate the development of an efficient distribution network in the Republic of Tajikistan.

8. Component 3: Strengthening the capacity of state institutions to prevent and manage crisis situations. This component will aim to strengthen the capacity of crisis prevention and management, i.e. crisis prevention and management. Early warning capabilities, preparedness and response of selected government agencies by building the capacity of relevant government agencies to prevent and manage crises in agriculture, focusing on selected programs that can significantly increase the resilience of the agricultural sector. This component will strengthen the base and capacity of government agencies, enabling them to assess agricultural production and yields in advance, identify potential food shortages, and more quickly predict crisis situations and take early preparedness and response measures. It will also support climate change adaptation and mitigation measures by ensuring significant climate change-related co-benefits. Priority areas in need of capacity-building include: (i) real-time monitoring of agricultural production and agrometeorology, including an early warning system for the livestock sector; (ii) soil analysis to improve soil fertility management and precision agriculture; (iii) plant protection and locust control; and (iv) nutrition improvements, including the procurement and distribution of micronutrients, vitamin supplements and ready-to-eat therapeutic foods (RUTFs) for pregnant and lactating women and young children (6-59 months), as well as the establishment and capitalization of the National Revolving Fund Premix (NRFP). The component also supports the implementation of the Integrated Food Security Phase Classification (IPC) methodology and the development of a Food Security Crisis Preparedness Plan (FSCPP).

9. Component 4: The objective of this component is to support the project management, coordination, M&E, as well as the implementation of the Environmental and Social Matrix (ESM) and fiduciary aspects of the project. These functions will be performed by the Project Management Unit (PMU) of the SI AED. The PMU will also manage the project's Grievance Redress Mechanism (GRM) and citizen engagement activities.

10. ***Location of the project***. The proposed project will be implemented throughout the country. Five agro-logistics centers (ALCs) will be located: one in Sughd region, one in GBAO, one in the Districts of Republican subordination and two in the Khatlon region, selected taking into account their agro-ecological potential, agricultural production patterns, export opportunities and proximity to the main urban market.

11. ***Intended beneficiaries***. In line with the government's priorities to strengthen support for MSME growth and investment opportunities, the main beneficiaries of the project are farmers, both small and large-scale farms, agribusinesses, exporters and service providers working along the horticulture value chain. The main beneficiaries will also be employees of government institutions, ranging from agricultural researchers and extension specialists to staff working in various units and structures of the Ministry of Agriculture and in local public authorities. The main beneficiaries of the project are also vulnerable rural households, including women and youth, who are supported through emergency operations for the distribution of seeds, fertilizers and small agricultural machinery. The beneficiaries of the nutrition interventions are pregnant and lactating women, young children (aged 6 to 59 months) and children with acute malnutrition receiving micronutrients, vitamin supplements and ready-to-eat therapeutic foods (RUTF).

12. ***Project Risk*.** According to the World Bank's Environment and Social Matrix, the project itself and the environmental and social risks are assessed as "significant". In this regard, the following documents need to be prepared: (i) an Environmental and Social Framework (this document) covering the entire project; (ii) a Pest Management Plan (PNM), which is contained in Annex 1 to this EAP; (iii) the Resettlement Policy Framework (RPF); (iv) the Stakeholder Engagement Plan (SEP); and (v) the Labour Relations Management Procedures. The supplementary financing introduces new categories of

environmental and social risks related to: (a) the emergency distribution of agrochemicals (mineral fertilizers) and treated seeds to vulnerable households; (b) construction work in the rehabilitation of irrigation systems and the construction of additional ALCs, including in GBAO (seismic zone 9 on the MSK-64 scale); (c) the storage, transport and distribution of micronutrients and RUTFs to vulnerable populations; (d) the identification of beneficiaries of emergency operations and ensuring inclusion; (e) the use of small-scale agricultural machinery without adequate training. All of these risks are assessed as manageable subject to the application of the mitigation measures set out in this ESMF.

13. The second additional financing (BF-2) does not introduce new categories of environmental and social risks compared to AF-1. At the same time, the following previously identified risks are scaled:

(a) Construction works of ALCs in Dangara (Khatlon region) and Khorog (GBAO, seismic zone 9 on the MSK-64 scale), as well as the completion of the construction of the ALC in Dushanbe and the equipping of all five ALCs with technological equipment;

14. (b) Introduction of mixed rice and fish farming: potential risks related to water management in rice fields, handling of fish feed and veterinary drugs, and impacts on aquatic ecosystems from the release of fry;

15. (c) Operational phase of the NRFP: risks associated with the transportation, storage and distribution of micronutrients to flour mills and salt producers;

16. (d) Continuation of locust control activities in the face of increased spread of locusts and other pests due to climate change;

17. (e) Extension of the Project for two years: the need to ensure the continuity of environmental and social monitoring, the operation of the GRM and compliance with the SEP obligations during the extended period.

18. All of these risks are assessed as manageable, subject to the application of the mitigation measures set out in this updated ESMF.

19. ***Institutional capacity in the field of EOs for the implementation of environmental safeguards. An*** assessment of the institutional capacity of EOs and previous experience in implementing safeguards issues under the initial project showed that national institutions and implementing organizations, while having the basic capacity to fulfil their responsibilities in relation to EOs and to ensure compliance with the EDRs, there is a need for additional capacity-building activities. In this regard, the project will support additional dissemination and training activities to ensure full compliance with environmental requirements and EDRs.

20. ***Potential environmental and social risks and impacts of the project.*** Overall, the project will provide a number of positive social and environmental impacts. It will support technical assistance and capacity building activities to improve seed quality, identify effective agricultural, land and water management practices, which will reduce environmental and public health risks in the production of agricultural products in the country, while creating new economic opportunities. Additional environmental risks relate to: (a) the handling, storage and distribution of mineral fertilizers to the population as part of emergency operations; (b) the impact on water resources and the generation of construction waste during the rehabilitation of irrigation systems; (c) the management of dismantled pumping units and irrigation equipment; (d) construction work in conditions of increased seismicity (GBAO, Zone 9); (e) Micronutrient packaging waste management and RUTF.

21. ***Potential environmental risks and*** **impacts.** All these risks and impacts may include increased environmental pollution by waste, noise, dust, air and water pollution, impacts on biodiversity; health hazards and occupational safety issues.

22. It is expected that most of the identified risks and impacts associated with construction activities will be typical of small- and medium-scale construction and rehabilitation, agricultural production,

temporary in nature and site-specific, and can be easily mitigated through the application of good construction practices and appropriate mitigation measures.

Potential social risks and impacts related to the physical impacts of the project are predictable and manageable through the measures included in the project's EARS and Resettlement Policy Framework (REFR). Direct social risks within the project are related to small-scale land alienation or land-use restrictions, as well as risks to the community, health and safety, social exclusion and occupational health and safety in the project activities. The project does not anticipate significant risks related to the influx of external labor, gender-based violence (GBV) or community health and safety, as most of the project workers will be locally employed.

23. Social risks may arise from three planned investments: (i) the development of a dynamic system of seeds, seedlings and planting material; (ii) the establishment of agro-logistics centres to support horticulture value chains; and (iii) the strengthening of public institutions for crisis prevention and management. The development of a seed system requires not only the development of appropriate farmer-friendly technologies (which includes knowledge, skills and management techniques), but also their dissemination throughout the country. The development and dissemination of technologies should be effective and inclusive, covering the whole country as well as different segments of the farming community, including the most vulnerable/smallholder farmers, women and other vulnerable segments of society. The following main social risks and impacts were identified: a) exclusion, as various small and medium-sized farms and individual farmers, as well as other vulnerable populations, may be excluded from the activities/process of obtaining the results/benefits of the project due to their remoteness, lack of adequate knowledge and skills to access and use improved technologies, inaccessibility of seeds and services; (b) low impact on involuntary displacement associated with the construction of multiple sites; and (c) increased exposure of farmers and communities to hazardous agrochemicals during the preparation and application of pesticide solutions and cleaning of spraying equipment. The project does not anticipate significant risks related to the influx of outside labor and the safety of the public, as most of the project workers (for construction work) will be recruited locally. The risk associated with sexual exploitation and abuse/sexual harassment is assessed as moderate mainly due to the requirements of national legislation on gender-based violence (GBV), gender norms, and the implementation of most of the project's activities in rural areas.

Additional social risks associated with additional financing activities include: (a) social exclusion risks in determining the beneficiaries of emergency operations; (b) potential temporary restrictions on farmers' access to irrigation water during irrigation rehabilitation, risks inequitable distribution of water resources; (c) health and safety risks in the distribution of micronutrients and RUTFs to pregnant women and children without proper supervision, information/training; (d) risks of injury from the use of small agricultural machinery without adequate training; (e) risks associated with ensuring the availability of ALC services for the population of GBAO, given the limited transport accessibility of the region.

24. In line with ESA 10 on stakeholder engagement and disclosure, the Government of the Republic of Tajikistan/Ministry of Agriculture (MoA), the project implementing agency, has developed a Stakeholder Engagement Plan.

25. ***Overall environmental and social risks of the project. Taking*** into account the potential environmental and social risks described above, as well as the high level of uncertainty in the priorities and directions of sectoral policies and the diversity of potential investment areas, the environmental and social risks of the project are assessed as **significant**.

26. ***Relevance of the World Bank's Environmental and Social Standards (ESSs). The*** project will be implemented in accordance with the World Bank's 2018 Environmental and Social Matrix (ESM), including relevant environmental and social standards (ESSs), the World Bank Group's Guidelines on Sanitation and Environmental Protection, and existing national legislation. ESAs that are relevant to the Project include: ESS 1, ESS 2, ESS 3, ESS 4, ESS 5, ESS 6, and ESS 10.

27. In accordance with ESS1, ***the Environment and Social Management Framework (ESMF)*** has been prepared, which defines the rules and procedures for conducting Environmental and Social Impact Assessments (ESIAs) for activities and sub-projects and for the preparation of appropriate Environmental and Social Plans (ESFP). The main objective of the preparation of the Environmental and Social Mangement Framework (ESMF) is to identify measures, modalities and mechanisms to prevent, minimize

and/or mitigate potential negative environmental and related social impacts that may arise from the implementation of the project. The ESMF will ensure that certain sub-projects during the implementation of the project will be correctly evaluated from an environmental and social point of view in order to comply with the environmental and social standards of the World Bank, as well as the environmental and social regulations and regulations of the Republic of Tajikistan. The ESMF will govern the process of conducting the ESIA and in this regard covers the following: (i) rules and procedures for environmental and social screening of project activities and sub-projects that will be supported under the project; (ii) guidelines for the implementation of sub-project ESIA and/or the preparation of the ESPA or the ESA Checklist, including monitoring plans; (iii) measures to mitigate the possible impacts of the proposed sub-projects; (iv) safety measures for the handling of treated seeds and pesticide application and the Pest Management Plan (PMP) template; (v) requirements for the prevention of risks and impacts related to biodiversity and ecosystem services through the introduction of new seed varieties[1]; (vi) mechanisms for the implementation and monitoring of the ESIA/CAP; (vii) a review of the capacity of the Ministry of Agriculture to manage environmental and social risks and measures to address any gaps in existing capacity.

28. The EAPS also provides a basis for providing detailed information on the procedures, criteria and responsibilities for the environmental and social impact assessment of the sub-project, the preparation, implementation and monitoring of the ESIA/SEA for each specific sub-project.

29. ***Inclusion of the Quality Management System in the project documentation.*** All sub-project tender documents should include a requirement to implement the RAP/Checklist, and these documents should be attached to the tender documents and then to the construction contracts. The RAPR requirements will be included in the Project Operational Manual, and the WEEP requirements will be included in the construction contracts for all sub-projects, both in the specification and in the quantity sheet, and contractors will be required to include the costs of implementing the CAP in their financial proposals. Finally, in accordance with the requirements of the WEAP and WEEP, the monitoring and evaluation of mitigation/prevention measures identified in the site-by-site review and in the WEEP will be an integral part of the implementation of the sub-project, including contracts that commit contractors to environmental and social obligations during the construction work. In addition, as stated in the WEEP, the terms of the contract must include requirements to comply with all national procedures for construction, health, environmental and social risk reduction, as well as environmental and social protection regulations.

30. ***Support for project implementation by the World Bank and monitoring of compliance with the ESA.*** The Government is responsible for complying with and monitoring Project activities in accordance with national laws and regulations, the World Bank's MOEIs and applicable ESAs, as well as the World Bank Group's Environmental Health and Environmental Guidelines (EHS). Regular (or, if necessary, remote) site visits will be conducted to monitor the Project's compliance with the ASP; site-by-site integrated pest management plans; site-by-site ESIAs/PEAs; and contractors' compliance with good construction practices and their contractors' SPAs. In addition, social specialists will verify the compliance of land alienation with the requirements of the RAP and the Resettlement Action Plans (RAPs) to be prepared as part of the project activities. The World Bank mission team will provide guidance on the preparation and analysis of the following key environmental and social documents, such as ESA/ESMF, RAP, RAP Completion Reports, and Quarterly Project Progress Reports.

31. ***Grievance Redress Mechanism (GRM). The*** Grievance Redress Mechanism for the project aims to ensure that beneficiaries and citizens can submit any grievances on all issues related to the project. The GRM will function at the regional and national levels. At the regional level, citizens can submit their grievances to the regional offices of the project in Khatlon and Sughd regions. If the complaint has not been addressed or the complainant has not received a satisfactory response, he/she can file a complaint with the PMU at the national level. Each complaint will be tracked and evaluated to see if progress has been made in resolving them. The project is expected to receive many complaints and ideally should have an electronic system for entering, tracking and monitoring complaints. The project monitoring and evaluation information system should also include indicators to measure the monitoring and resolution of complaints.

32. ***Consultation on ESMF and disclosure*.** Comments received during the public consultation were

[1]В соответствии с руководящими принципами ФАО:http://www.fao.org/agriculture/crops/thematic-sitemap/theme/biodiversity/en/

reflected in the EDR. The Stakeholder Engagement Plan (SEP) is a tool designed to provide practical guidance to support public consultation and engagement activities conducted by the Ministry of Agriculture in connection with the design and implementation of the Project. The purpose of the SEP is to ensure that engagement activities are carried out in an efficient, fair and transparent manner, involving all relevant stakeholders, and to use participatory and locally appropriate consultation methods. Conduct public consultations, including consultations on SCSS, ESIA/EPA, RAP; take into account the views expressed during the public consultations in the implementation of the project. Activities within the framework of the project implementation are carried out on a national scale, so the project team needs to take a strategic approach in the development of the SEP. Stakeholder engagement activities should be carried out both horizontally and vertically. Within the framework of the SEP, the project will finance activities to improve the information and training system for beneficiaries: the development and delivery of training courses and modules in various formats, which, among other things, will contribute to the development and implementation of formal and regular consultations with farmers, civil society and other stakeholders. Outreach activities will provide specific stakeholder groups with relevant information and opportunities to express their views on topics that are important to them.

33. In January-March 2021, the MoA and PCA PCA held a series of meetings, consultations, and discussions on project design in order to: (i) discuss the details of the project activities with relevant governmental and non-governmental institutions; (ii) agree on an approach to project preparation; (iii) agree on fiduciary requirements and safeguards related to project preparation; and (iv) consider additional questions and guidance that were provided during the World Bank's internal meeting to review the project concept note.

34. The last public consultation was held on April 21-22, 2021, before finalizing the ESMF. During the public consultation, participants were introduced to the project objectives, planning activities, expected environmental and social impacts, and proposed mitigation measures, compensation measures for any impacts, and a grievance mechanism. Based on the suggestions received during the consultation workshop, the ESMF, other environmental and social tools, including the RAP, the RAP, the Labour Relations Management Procedures (RAP), and the Stakeholder Engagement Plan (SEP), will be updated, finalized, and published on the MoA website, and then posted on the official World Bank website.

II. PROJECT DESCRIPTION

35. The project aims to support the Government of Tajikistan in its successful transition to a sustainable, more productive, climate-resilient and inclusive growth model for the agricultural sector. The proposed project will help to: (i) increase the production and availability of quality seeds, seedlings and planting material that are resilient to climate change that are affordable, preferable for farmers and well adapted to the different agro-ecological conditions of Tajikistan; (ii) improve access to improved agro-logistics services for farmers and agribusinesses; and (iii) strengthen capacity for crisis management, i.e. early warning, preparedness and response capabilities of selected government agencies. All activities related to human resource development and capacity building will include topics aimed at improving understanding of climate change issues, as well as laying the groundwork, tools and methods aimed at facilitating the development and implementation of approaches to climate change adaptation and mitigation. All infrastructure, including buildings, offices, laboratories and warehouses constructed and/or rehabilitated as part of the project, will encourage the use of energy-efficient and climate-resilient materials and designs. The proposed project aims to strengthen the foundation of a more sustainable agricultural sector, which in turn will help improve food and nutrition security and accelerate agricultural diversification. It will also contribute to the development of a viable private small, small and medium-sized enterprise (MSME) sector in rural areas and create employment opportunities for women in regions where there are few affordable alternatives.

2.1. Project components

Component 1: Improvement of systems related to seed production, production of seedlings and planting material

36. The objective of this component is to support the development of sustainable and dynamic seed, seedling, and planting material systems that provide sufficient quality and quantity of improved, locally adapted, farmer-preferred, climate-resilient and affordable seeds, seedlings, and planting material. The component aims to achieve this goal by supporting regulatory frameworks, research and development, reproduction, and quality assurance of seeds, seedlings, and planting material.

37. **Subcomponent 1.1: Regulatory framework**. The objective of this subcomponent is to improve the policy and regulatory framework for seed production, seedling production and planting material systems. Over the years, Tajikistan has made significant progress in its progress towards a market economy by ensuring the development of sound policies and regulatory frameworks for the development of the seed and seedling production sector. Several legal provisions and key norms have been developed and adopted by the Parliament of the Republic of Tajikistan (Majlisi Milli Majlisi Oli of the Republic of Tajikistan). In addition, strategies and programs have been developed that detail roadmaps for the short- and long-term development of the relevant sub-sectors of the country's economy. However, some legislation and policies did not cover all aspects of the sub-sectors, while others were not fully implemented due to resource and capacity constraints. Certain regulations have not been harmonized with regional and international standards,[2] which limited the country's ability and ability to compete in the agricultural market on a regional and global scale. Tajikistan is still not a member of international organizations regulating seed trade. For this reason, foreign seed companies are not eager to introduce their improved varieties and enter the country's domestic seed market. An analysis of the seed sector in Tajikistan showed that there are still gaps in the regulatory framework and legislation, as well as the need to harmonize the national legislative framework with regional and international standards. This sub-component will address these gaps by supporting the development (including the adoption of new ones and the revision of existing ones), implementation and harmonization of policies and legislation. It will also support Tajikistan's accession to international organizations and capacity building of personnel involved in the development of legislation. The main areas of support include: (i) assisting in the review of the existing regulatory framework and legislation in order to: (a) conduct an analysis, (b) identify gaps in policy and legislation and problems with their implementation, (c) develop new regulatory rules, regulatory frameworks and legislation, including

[2]Это требуется в соответствии с Постановлением Правительства о контроле качества и сертификации семян за № 132 от 2010 г.

their harmonization with regional and international standards, and (d) train[3] the staff of the Ministry of Agriculture in the development of legislation, regulations, strategies and development programs.

38. **Sub-component 1.2: Research and development ($5.0 million)** . The objective of this sub-component is to strengthen the capacity of national agricultural research institutes (SRIs), starting with the development of the existing primary base, so that they can further engage in the following activities:(i) development of new technologies; (ii) adaptation of technologies to local social and environmental conditions and changing circumstances over time (e.g. co-evolution of pests and diseases, degradation of water and land resources, and manifestations of climate change); (iii) transfer of finished technologies to end-users; and (iv) support for the conservation of varieties (supportive breeding). At present, research institutes and universities are not able to support meaningful research programmes, as they generally do not have the necessary research facilities, including laboratories, greenhouses for the production of seedlings and planting material, and agricultural and irrigation infrastructure. Research institutes also lack qualified scientists, specialists and laboratory assistants who are able to fully meet the research needs of the seed, seedling and planting material subsectors. The system of conservation of varieties (supportive breeding) and reproduction of early generation seeds is also insufficiently organized, which in turn leads to a shortage of seeds of elite varieties for further reproduction on the basis of public and private seed farms. The weak research base is exacerbated by the fact that the private sector has neither the capacity nor the capacity to conduct large-scale research work in the Republic of Tajikistan. This sub-component will support capacity-building of research institutes, including: (i) strengthening the physical and technical base, including research infrastructure[4]; and (ii) skills development, including in the field of climate-smart agriculture (CSA). The subcomponent will support research institutes affiliated with the Tajik Academy of Agricultural Sciences (TAA)[5] and the Tajik Agrarian University (TAU)[6]Particular attention will be given to the development and adaptation of climate-resilient crop varieties (including nutrient-rich crops such as horticulture); varieties that are resistant to low humidity or drought, insect pests and higher temperatures. The project will also contribute to the development and adaptation of technologies that are gender-sensitive and nutritionally relevant (e.g., research activities to take into account both male and female physiques in the development of technologies, as well as labor-saving technologies for women to perform traditional tasks in agriculture, such as weeding and harvesting). This subcomponent will also support research institutions in the conservation of varieties (supportive breeding and in the reproduction of high-quality seeds, seedlings and early generation planting material available to stakeholders and end-users for their industrial-scale reproduction and sale).

39. **Subcomponent 1.3: Production of categories and reproduction**. The objective of this sub-component is to strengthen the capacity of public and private seed farms, as well as nurseries engaged in the production and reproduction of seeds, seedlings and planting material[7]. State-owned seed farms and nurseries will receive support to develop their technical and human resources, while private seed farms and nurseries will benefit from the project's technical assistance. In the Republic of Tajikistan, the reproduction of seeds, seedlings and planting materials is largely within the competence of the private sector, including private seed farms and nurseries, as well as cooperative seed farms, the former accounting for more than 98% of this indicator. At[8] present, there are 90 private seed farms and nurseries in the Republic of Tajikistan that are engaged in the production of categories, reproduction of seeds and seedlings. Although there are largely no restrictions on the reproduction of seeds, seedlings and planting materials, the Government of the Republic of Tajikistan provides recommendations on regions and optimal conditions and quality requirements, depending on the type of crops and available resources. The Government of the Republic of Tajikistan also ensures the quality of reproduced seeds, seedlings and planting materials in seed farms and nurseries, including their testing and certification. The infrastructure both at the facilities managed by the Ministry of Agriculture, TAHN and TAU, as well as in private seed farms and nurseries, is in a deplorable and dilapidated state. Most seed enterprises and nurseries are poorly equipped, which requires investment

[3]Staff training will be based on a preliminary assessment of the gaps and demand for training programs.

[4] Investments will be made in climate-resilient and energy-efficient infrastructure .

[5] Institutions under the Academy of Agricultural Sciences of Tajikistan: Pamir Scientific Center of Agriculture; Institute of Agriculture; Institute of Horticulture, Viticulture and Vegetable Growing; National Center for Genetic Resources; Scientific Center for Innovative Technologies and Agricultural Mechanization.

[6]Research Institute of Biotechnology of the Tajik Agrarian University named after Shirinsho Shotemur.

[7]Certified seeds derived from registered varieties are classified as "first-to-reproduction seeds" (or original seeds from breeders, also called "super-elite"), "elite seeds" (seeds used by seed producers to produce seeds on an industrial scale for farmers' needs, which may include hybrid or F1 seeds).

[8] This role is mainly for the production of "original seeds", also called breeder seeds or super-elite seeds, and elite seeds.

in storage facilities, equipment for cleaning and processing seeds and agricultural machinery. Private seed farms and nurseries need to improve their knowledge of modern seed growing technologies, which requires investment in improving the skills of their employees. The project will also identify women producers of seeds, seedlings and planting materials, and those involved in their reproduction, who will benefit from the project, including in terms of knowledge. Support to the project to increase the production of categories and reproduction of seeds, seedlings and planting materials, will take into account climatic conditions and pest resistance and will be adapted to different agro-ecological zones. This sub-component will consist of two main areas: (i) improving the facilities and human resources of seeds, nurseries and their associated stakeholders to ensure the production of improved seeds, seedlings and planting material, including through CSAs; and (ii) the procurement of super-elite and elite varieties for their production and reproduction on an industrial scale by seed farms and nurseries. Improvement and human capacity building activities to support reproduction activities will be governed by appropriate regulations, procedures and rules to ensure compliance with quality standards through, inter alia, rigorous monitoring and certification by the public sector. The acquisition of seeds, seedlings and planting material that will help seed producers and nurseries meet their immediate needs to access high-quality varieties for industrial-scale production in order to ensure the long-term benefits of research and development, which is emphasized under sub-component 1.2, will also be managed in terms of quality and standards to be set by the public sector. The Government of the Republic of Tajikistan will be responsible for the purchase of elite and super-elite seeds and seedlings and their subsequent distribution among seed farms and nurseries in accordance with the established procedure.

40. **Emergency operations. Under** this subcomponent, the Project supports emergency operations involving the procurement and subsequent distribution of seeds, seedlings, planting material, fertilizers and small agricultural machinery, including mini-tractors, cultivators, plows, trailers, harrows, disc harrows, threshing machines, rakes, sprayers, potato diggers, pit diggers, potato planters, cereals and melons, and other small-sized equipment, to vulnerable rural households.

41. **Rehabilitation of irrigation systems (budget of 4.0 million USD). In** order to eliminate existing water use problems associated with dilapidated infrastructure and ensure access to the irrigation system for vulnerable farms, the subcomponent will rehabilitate existing irrigation systems by installing energy-efficient irrigation pumps and carry out minor rehabilitation of existing irrigation networks, including the replacement of obsolete non-working pumping units serving existing irrigated areas, as well as minor (emergency) repairs of inter-farm and on-farm irrigation infrastructure for dehkan and female-headed farms. Rehabilitation of irrigation systems will be carried out by MCC RPAG together with the Agency for Land Reclamation and Irrigation under the Government of the Republic of Tajikistan.

42. **Subcomponent 1.4: Quality Assurance**. The objective of this sub-component is to build the capacity of institutions and organizations that are involved in quality assurance activities for seeds, seedlings and planting material that are produced (or imported) and sold in Tajikistan. The authority to ensure quality and compliance with standards, as well as to conduct inspection and certification of seeds, seedlings and planting material that are produced, reproduced and sold, is vested in the Government, in particular the Ministry of Agriculture. Currently, there is a lack of proper monitoring of the quality and standards of seeds, seedlings and planting material, as well as insufficient experts and capacity for various varieties and types of crops in order to carry out any certification. Although there are laboratories, including the Central Seed Laboratory, which has been accredited by MATS in the past, and laboratories affiliated to the Tajikstandard Agency[9], including the PBC laboratory, in addition to other regional seed testing laboratories, they do not have sufficient capacity, technical capabilities, equipment and technology to conduct large-scale testing. Thus, while most of the seed and planting material produced and sold in Tajikistan may have originally been obtained from certified seeds and material of registered varieties, however, due to imperfect production techniques and insufficient quality monitoring, their varietal purity was not ensured due to insufficient capacity and capacity of quality assurance services. This subcomponent will focus on two main areas: (i) improving the facilities of varietal testing facilities for quality assurance, including laboratories[10]; and (ii) developing human resources. The main elements of support for activities to: (a) improve the facilities of this subcomponent will include the following: (i) construction of new and/or rehabilitation of existing office and laboratory facilities; (ii) procurement of office furniture, field equipment, laboratory, IT and related equipment, agricultural machinery and vehicles, as well as materials

[9]Bert Popping. 2019. Progress Report. TCP-TAJ-3702-C2.
[10]Investments in climate-resilient and energy-efficient infrastructure will be made.

necessary for the operation of laboratories, and other activities and activities to promote quality assurance; (b) support for human resource development, including technical assistance in conducting capacity and capacity assessments, training of researchers, laboratory technicians, quality assurance personnel by facilitating their participation in individually oriented training activities (both short-term and long-term), workshops and conferences; and (c) ongoing costs for monitoring and working with seed farms and nurseries within the framework of the project.

Component 2: Support for investments in agro-logistics centres to improve value chains in the horticulture sector

43. Under this component, investments in agro-logistics centres (ALCs) will be supported in order to increase the competitiveness of value chains in the horticulture sector and improve market access (e.g. domestic retail chains and exports). Investments in ALCs will help build sustainable food systems, promote agricultural diversification, establish effective market linkages, ensure food quality and safety standards, reduce food loss/waste, and initiate the development of an efficient distribution system network in Tajikistan.

44. **Subcomponent 2.1: Support for the development and operation of ALC.**

45. The implementation of this sub-component will support the establishment of three ALCs, tentatively located one each in the Khatlon region, Sughd region and the vicinity of Dushanbe, where horticulture production is concentrated, in order to support compliance with standards related to initial acceptance, quality and food safety in relation to horticultural products and their access to retail chains. The ALCs will be relatively small in size, with investments of up to US$4 million each, reflecting the small market in Tajikistan and the need for the gradual development of an integrated ALC network in the country. The ALCs in the Khatlon and Sughd regions will provide services mainly for export promotion, while the ALC located in the vicinity of Dushanbe will serve the capital of the country with 700,000 consumers. Optimized ALC processing platforms, including improved and new storage facilities, will reduce the risk of food loss. The availability of ALC services will also increase private investment in horticulture, including orchards, which in turn will contribute to climate change mitigation and job creation. In particular, the subcomponent will support: (i) feasibility studies, business plans, environmental and social impact assessments, and detailed design and construction supervision plans for all three sites; (ii) construction work for the construction of three facilities; (iii) construction supervision; and (iv) procurement of equipment for the three facilities for product pre-cooling, sorting, calibration, packaging lines, as well as cold storage chambers and operational management software. It is planned that these facilities will be built on state-owned land. It is expected that the management of ALCs will be carried out on the basis of a service agreement, under which the state delegates powers to a private operator (Tajikistan has legislation on concession agreements and other types of public-private partnerships). In the event that such an agreement cannot be implemented, they will be managed by a state-owned enterprise.

46. **Within the framework of DF-2, the construction and equipping of five ALCs will be completed:**

Two ALCs in Sughd and Khatlon regions – at the stage of completion of construction (commissioning is scheduled for January 2027); ALC in Dushanbe – construction work has begun, the purchase of the technological line will be carried out within the framework of DF-2; ALC in Dangar (Khatlon region) – construction and equipping within the framework of DF-2 for two ALCs in Dangar and Khorog); ALC in Khorog (GBAO) – construction and equipping within the framework of DF-2, taking into account the specific conditions of the high-mountain region and seismic zone 9 on the MSK-64 scale.

In addition, within the framework of DF-2, equipment will be purchased for quality control laboratories, personnel training and commissioning of all five ALCs.

47. The construction of ALCs in these locations is subject to the ESIA/WASP procedure in accordance with this EADR. For the ALC in Khorog, additional requirements set out in subsection 6.1.4 of this RALRS apply (earthquake-resistant design, landslide and mudflow risk management, limited transport accessibility). For the DLC in Dangara, the typical risks of small and medium-scale construction works typical for the Khatlon region are taken into account.The operational phase of the ALC will be carried out

on the basis of an agreement with a private operator. The ALC equipment will also include fumigation plants for pre-export and pre-sale treatment of horticultural products against pests and quarantine organisms. Fumigation involves the use of highly toxic gases, which is classified as an activity with an increased risk to the health of workers (ESS 2) and the safety of the surrounding communities (ESS 4). Fumigation plants will only be operated if there is a dedicated site-specific Environmental and Social Plan (ESS) and a Pest Management Plan (PWM) that includes fumigation safety protocols.

48. **Subcomponent 2.2: Capacity-building in the operation and management of ALCs and awareness-raising ($0.3 million).** This sub-component will support: (i) training[11] of ALC management staff through specialized in-service training; and (ii) provision and exchange of information for MAs to prepare the ground for scaling up future investments in a sustainable and integrated food distribution network around ALCs.

Component 3: Strengthening the capacity of public institutions to prevent and manage crisis situations

49. This component will aim to strengthen the capacity of relevant government agencies to prevent and manage crises in agriculture by focusing on selected programmes that can significantly improve the resilience of the agricultural sector. This component will strengthen the base and capacity of government agencies, enabling them to assess agricultural production and yields in advance, identify potential food shortages, and more quickly predict crises and take early preparedness and response measures. It will also support climate change adaptation and mitigation measures by ensuring significant co-benefits related to climate change. Priority areas in need of capacity building include: (i) real-time monitoring of agricultural production and agrometeorology; (ii) soil analysis to improve soil fertility management and precision farming; and (iii) plant protection and locust control. This component will consist of the following three sub-components.

50. **Sub-component 3.1: Real-time monitoring of agricultural production, land use and agrometeorology**. The objective of this sub-component is to improve the information base and build capacity for data analysis for effective policy formulation for more sustainable and resilient agricultural development. The MoA is currently receiving information on planted areas or the impact of droughts and floods on planted areas and yields, which is not sufficiently disaggregated and reliable to make strategic decisions. However, it is available with significant delays. The project will focus on collecting critical data on land use and agricultural production on a regular and timely basis using digital technologies and transforming this data into a basis for real-time action, including crisis preparedness and response. This sub-component will consist of three main areas of activity: (i) the establishment of a system for the regular collection of data on agricultural land use/planting decisions, using a single database and protocols for data collection at the level of jamoats, districts and regions; (ii) the collection of information on vegetation cover and the impact of climate threats on agricultural production using remote sensing technologies; and (iii) capacity-building at the institutional level in agricultural production forecasting and early warning, which will lead to strategic decisions to help farmers adapt to climate change. This sub-component will also support the production of real-time agrometeorological information. Competent advice, alerts and reliable early warning systems are essential for farmers and villagers to prepare for and adapt to climate change. In this regard, the project will support two main areas: (i) strengthening the capacity of the Ministry of Agriculture to collect and analyse weather information in specific locations in cooperation with the Agency for Hydrometeorology; and (ii) providing early warning and timely forecasts to farmers, which will address the problem of delays in the provision of reliable agrometeorological information, taking into account the results of the FAO/European Union (EU) pilot project in Tajikistan.[12] Agrometeorological applications can benefit farmers by helping them better manage their activities, such as pruning and thinning; assisting in the selection of sowing dates for optimal yields; helping to reduce the loss of applied chemicals and fertilizers; helping them avoid spraying fertilizers and chemicals when forecasting rain or at high wind speeds; monitoring soil moisture and regulating water supply for irrigation; predicting harvest times; and acting as an early warning system for pest and disease outbreaks, helping farmers to better control their

[11]Обучениеперсоналабудетосновыватьсянапредварительной оценке пробелов и спроса программ обучения.

[12] The EU-funded and implemented by FAO project "Strengthening the Institutions and Capacities of the Ministry of Agriculture and the State Veterinary Inspection Service for Policy Development" supported the successful establishment of several agrometeorological stations in Tursunzade, Kanibadam and Balkhi districts in 2019-2020, the number of which can be increased with the support of the SRASP.

phytosanitary activities. The main elements of support under this subcomponent include: (a) the establishment of a system for the regular collection of data on agricultural land use decisions, including: (i) the development of protocols and guidelines for collecting data into a single database; and (ii) the establishment of new agrometeorological stations and infrastructure for data reception and processing[13]; (b) Collection of information on the development of crop growth and the impact of climate hazards on agricultural production, including the procurement of remote sensing goods and equipment, as well as the collection and monitoring of field data; (c) Capacity building at the institutional level in agricultural production forecasting and early warning, leading to the adoption of MAA decisions to assist farmers in adapting to climate change, including through the provision of training; (d) Increased capacity of the Ministry of Agriculture, TAA, TAU and the Agency for Hydrometeorology, the Committee for Environmental Protection under the Government of Tajikistan to collect and analyze weather information in specific locations, including through trainings[14] for the Ministry of Agriculture, TAHN, TAU; (e) Providing farmers with early warning and timely diagnosis and other agrometeorological information materials, as well as developing information dissemination channels; (f) Ongoing costs for monitoring and control under the project. This sub-component will also support: (a) the implementation of the Integrated Food Security Phase Classification (IPC) methodology as a cutting-edge, multi-stakeholder initiative to improve food security and nutrition analysis and decision-making. The project funds periodic surveys, research, report writing and dissemination of results; (b) development and implementation of the Food Security Crisis Preparedness Plan (FSCPP); (c) development of an early warning system for the livestock sector, including: (i) advisory support for implementation; (ii) software development; (iii) creation of IT infrastructure; and (iv) training on how to use the system.

51. **Sub-component 3.2: Improving soil fertility ($3.1 million)** The objective of this sub-component is to increase farmers' awareness of the state of their soils, water and biological hazards, and to succeed in replacing the provision of general recommendations with evidence-based recommendations and the introduction of climate-smart agricultural practices (i.e., precision agriculture). This subcomponent will consist of three main areas: (i) increasing land productivity by increasing soil fertility and improving soil health and addressing land degradation; (ii) strengthening the capacity of the Ministry of Agriculture, the Academy of Agricultural Sciences, the TAU and other government agencies to apply climate-friendly practices that reduce greenhouse gas (GHG) emissions and fertilizer use; and (iii) laying the groundwork for the effective use of innovative methods for remote digital scanning and soil analysis in the future. The main elements of support under this subcomponent will include: (a) increasing land productivity by improving soil fertility and health and addressing land degradation, including: (i) upgrading the infrastructure of soil and water analysis laboratories, including: construction work with the provision of equipment, ICT and software; (ii) establishing a network of central reference and regional laboratories at agrochemical stations; (iii) improving guidelines/methodologies for soil testing and fertilizer use adapted to different soil types and agro-ecological zones; (b) building capacity in the MAA, TAA, TAU and other government agencies to promote climate-resilient agricultural practices, including through training; (c) ongoing costs for soil sample collection, agro-technology mapping and farmer work under the project; (d) Establishing a framework for the effective use of innovative spectroscopic digital technologies for soil scanning, i.e. portable field research and testing in the future, including the promotion of field equipment for real-time soil research, advising farmers on soil fertility management

52. **Sub-component 3.3: Plant protection and locust management**. The objective of this sub-component is to strengthen the capacity of[15] plant protection and locust control organizations. Higher temperatures favour the emergence of pests, and potential threats caused by climate change in Tajikistan lead to the emergence of new pests and diseases.[16] Under the implementation of this sub-component, two main areas of action will be identified: (i) investing in large-scale locust and other pest control measures;

[13]Investments will be made in climate-resilient and energy-efficient infrastructure.

[14] Staff training will be based on a preliminary assessment of the gaps and demand for training programs.

[15] The project will complement and fill the gaps of the second phase of the regional locust management programme, implemented by FAO and funded by the Government of Japan, which was launched in December 2020. This five-year project will provide support to improve locust control measures through regional cooperation and strengthening technical capacities on a wide range of issues, including the operational use of an automated data collection system and a national geographic information system, which will allow the collection and analysis of standardized locust field data.

[16]ADB and the World Bank. 2021. Country profile on climate risks, Tajikistan (working version of the document).

(ii) strengthening the human capacity of state institutions responsible for plant protection and locust control. Tajik farmers suffer significant losses from frequent pest infestations, especially locusts, exacerbated by climate change. Over the past ten years, locust surveillance area has been around 500 000 hectares, with annual locust control activities ranging from 60,000 to 140,000 hectares. The real impact is more devastating, as annual locust infestations severely reduce the incomes of the poorest segments of Tajik society. The public sector has a greater role to play in the provision of services to help farmers reduce these losses, including through better monitoring, prevention and response measures. Preliminary panel discussions will be held to identify the demand for information provided by the public sector and to identify preferred mechanisms for its dissemination, with a focus on group discussions with vulnerable (small, young) producers, as well as with women farmers and other users. (ii) improving the technical capacity of plant protection and locust management units, including the provision of chemicals, goods and equipment to provide services and strengthen field surveillance; (iii) the ongoing costs of conducting field surveillance of locusts and other pests within the framework; (iv) field and office equipment and logistical resources for experts, scientists and farmers; and (b) investing in human capacity building for the implementation of control measures, including training: (i) for plant protection and locust management agencies on climate-smart agriculture and integrated pest management; and (ii) for experts, scientists and farmers in the field of natural resource management.

53. **Subcomponent 3.4:** Improved nutrition.

54. The overall objective of this subcomponent is to address long-term and short-term nutrition needs and challenges. This subcomponent funds three main clusters of activities:

55. (a) Procurement and distribution of micronutrients and vitamin supplements for pregnant and lactating women and children (aged 6 to 59 months), as well as ready-to-use therapeutic foods (RUTFs) for children at risk of severe acute malnutrition (PHC). Procurement is carried out through UNICEF. Distribution is carried out through the Primary Health Care (PHC) network throughout the country. Overall coordination, monitoring, reporting and supervision are the responsibility of the Office of Maternal and Child Health and Family Planning under the MOHSPP. Daily monitoring, reporting and proper administration of the distributed RUTFs will be entrusted to the Clinical Research Institute of Pediatrics and Paediatric Surgery of the MOHSPP.

56. (b) Establishment and capitalization of the National Revolving Fund Premix (NRFP) to support the implementation of the Law of the Republic of Tajikistan "On Ensuring Public Access to Fortified Food Products". The NRFP will be established under the Government Supervision Committee, consisting of the Ministry of Agriculture, the Ministry of Finance, the Ministry of Health and Social Protection, the Ministry of Industry and New Technologies, the Tajikstandart Agency, private manufacturing companies and other relevant stakeholders.

57. (c) Supporting the Ministry of Agriculture in implementing priority agricultural nutrition interventions within the framework of the Multisectoral Nutrition Action Plan of the Republic of Tajikistan for 2021-2025, as well as strengthening human capacity in the agricultural sector for the development and implementation of nutrition-oriented policies and programs.

58. This sub-component will be accompanied by a media and communication campaign aimed at raising awareness of the importance of healthy and varied diets and micronutrient intake. In addition to these measures, the Project will hire a local civil society organization (CSO) to conduct independent monitoring. The project will report on the progress of this activity to the National Council for Improved Nutrition in Tajikistan, the Coordinating Council for Maternal and Child Health, and other coordination mechanisms.

59. In connection with the extension of the Project until June 30, 2029, funds will be allocated under the BF-2 to cover the costs of the PMU AED, including: personnel, operating costs, monitoring and evaluation, fiduciary management, environmental and social governance, and stakeholder engagement. During the extended period, the PMU AED will continue to perform all functions foreseen in this ESMF, including monitoring compliance with the ESA, managing the ITL, reporting on environmental and social performance, and coordination with the World Bank team.

Component 4: Project management and coordination

60. The objective of this component is to support the project management, coordination, M&E and implementation of the Environmental and Social Matrix tools and fiduciary aspects of the project. These functions will be performed by the Project Management Unit (PMU) of the SI AED. The PMU will also manage the project's Grievance Redress Mechanism (GRM) and citizen engagement activities. Under Component 1, beneficiary satisfaction surveys will be conducted annually (using scorecards and other feedback mechanisms). Components 2 and 3 of the project will also conduct preliminary, inclusive group discussions to identify the demand for ALC services, as well as agricultural information and public sector service delivery mechanisms, with a focus on group discussions with vulnerable (small, young) producers, as well as women farmers and other users. These will be organized annually as social monitoring activities with the participation of stakeholders. The PMU will be staffed with the necessary specialists, including fiduciary, environmental and social specialists. Activities to be funded under this component include: (i) PMU staff; (ii) operating costs, including office costs, fuel and lubricants, per diem, mobile communications, etc.; (iii) goods, including office furniture, IT equipment, vehicles, audiovisual aids, etc.; (iv) consulting and non-consulting services, including trainings, seminars, conferences, etc., and technical assistance (TA) within the framework of various activities, e.g. conducting TOs, capacity needs assessments, specifications for laboratory equipment, etc.; and (v) implementation, including planning, monitoring (oversight) and evaluation (impact assessment), reporting, project audits, donor coordination, etc.).

2.2. Project beneficiaries

61. **Main beneficiaries**. The main beneficiaries of the project are farmers, both small and large-scale farms, agribusinesses, exporters and service providers working along the value chain in the horticulture sector. The main beneficiaries will also be employees of government institutions, ranging from agricultural scientists and extension specialists to personnel working in various units and structures of the Ministry of Agriculture and in local government bodies. The beneficiaries of the implementation of the mixed cultivation of rice and fish under the AF-2 are vulnerable dehkan farms, including farms headed by women, in different regions of the country. Secondary beneficiaries of the operational phase of the NRFP are flour mills and salt producers, who gain access to micronutrients for food fortification.

62. ***Geographical focus and selection criteria. The*** project will be available to beneficiaries throughout the country, and the three ALCs will be tentatively located, one each in the Khatlon and Sughd regions and near Dushanbe, selected for their agro-ecological potential, agricultural production patterns and proximity to a large urban market (in the case of Dushanbe). The focus will be on horticulture.

2.3. Scope and objectives of the Environmental and Social Framework Document (WEIR)

63. As the technical assessment (e.g. feasibility study, detailed designs) and the specific sites of the project activities have not been identified and/or are not yet ready, and their specific impacts are not known at the time of the project evaluation, a framework approach has therefore been adopted. Thus, in accordance with ESS 1, the Environmental and Social Management Framework (ESMF) has been prepared, which defines the rules and procedures for the conduct of Environmental and Social Impact Assessment (ESIA) for activities and sub-projects, as well as for the preparation of appropriate Environmental and Social Plans (ESPAs). The main objective of the Environmental and Social Management Framework Document (ESMF) is to identify measures, ways and mechanism to prevent, minimize and/or mitigate potential negative environmental and related social impacts that may arise from the implementation of the project. The ESMF ensures that the selected sub-projects are properly evaluated from an environmental and social point of view in order to comply with the requirements of the MoEP and the WB GRMs along with the environmental and social legislation and regulations of the Republic of Tajikistan to adequately mitigate residual and unavoidable impacts (if any).

64. The ESMF provides guidance on the development of appropriate measures to mitigate and compensate for the negative impacts caused by project activities. This document describes the general information/context, policy and regulatory framework, as well as the environmental and social impacts of possible sub-projects. This includes procedures and guidelines for Environmental and Social Impact Assessment (ESA), institutional arrangements, consultation and disclosure procedures.

65. The ESMF will regulate the implementation of project activities as follows:

a. A detailed chapter on Integrated Pest Management (IPM) including an assessment of current pest management practices in the Republic of Tajikistan; recommended actions of the project to address the deficiencies (if any) identified during this assessment; lists of pesticides banned by national legislation or banned under the MoE and ESA; and, as an annex, the BSS for the project is included.
b. General guidelines and procedures for preventing, mitigating or minimizing the adverse environmental and social impacts of potential activities.
c. A description of the implementation mechanisms, including details on how environmental and social risks will be managed.
d. Criteria for the identification of acceptable environmental and social risks and pest management procedures within the proposed sub-projects.
e. Detailed description of national regulations and procedures for the use of agricultural chemicals and pesticides.
f. Descriptions of environmental, social or pest management assessment processes that will help to identify the necessary MoE tools for each site.
g. Site-specific environmental and social impact assessment/ environmental and social planning (ESA/ESMF) checklists.
h. WSRP checklists for the construction and rehabilitation of small and medium-sized seed laboratory facilities, local seed banks and agro-logistics centres envisaged by the project.
i. Requirements for environmental and social monitoring and reporting.
j. A section on proposed capacity-building activities to assist project implementing agencies in meeting the requirements of the MoEIR.
k. Requirements for risk management in the supply chain.

Facility-specific ESAs/ESMFs that the Bank considers to pose a significant environmental or social risk will be reviewed by the Bank prior to the issuance of tender documents for these activities, otherwise they will be reviewed by the Bank during regular project support missions.

Annexes that are part of the EADR:

i. Rules, criteria and procedures for environmental and social assessment of project activities and subprojects that will be supported within the framework of the project;
ii. Guidelines for the preparation of ESAs/ESMFs for larger facilities, taking into account their specificities;
iii. WWTP checklists for small activities such as the renovation/rehabilitation of facilities or laboratories or the construction of small facilities or laboratories within existing buildings.

66. The policy and regulatory framework reviews compliance with national laws and EO requirements. The IRB guidelines and procedures serve to define responsibilities for the preparation, selection, evaluation, implementation and monitoring of sub-projects. These guidelines will set out the requirements for the preparation of Environmental and Social Plans (ESPs) for sub-projects.

67. The ESMF is also used to provide detailed information on the procedures, criteria and responsibilities for the environmental and social assessment of sub-projects, the preparation, implementation and monitoring of ESA for each specific sub-project. In order to address the potential impacts of resettlement, the MoA has developed a Resettlement Policy Framework (REFR). The main objective of the Resettlement Policy Framework is to provide a framework for the proper identification, resolution and mitigation of adverse socio-economic impacts that may arise from sub-projects involving the expropriation of land and the subsequent resettlement of affected families.

III. REGULATORY FRAMEWORK FOR ENVIRONMENTAL AND SOCIAL ASSESSMENT

3.1. National environmental legislation and procedures of the Republic of Tajikistan

68. Tajikistan has a well-developed regulatory and legal framework in the field of environmental protection. The current environmental legislation of the Republic of Tajikistan includes normative legal acts and laws on the following issues:

- Environmental protection;
- Environmental audit and monitoring;
- Protection of flora and fauna;
- Environmental information and education;
- Quality of soil, water and air;
- Biological Safety;
- Human health and safety; and
- Waste and Chemicals Management.

47. The environmental legislation of the Republic of Tajikistan includes the Constitution, codes and laws on air quality, noise, minerals, land management, forests, health and safety, waste and chemical management. *The Framework Law on Environmental Protection of the Republic of Tajikistan* was adopted in 1993, enacted in 1994, amended in 1996, 1997, 2002, 2004 and 2007, and replaced in 2011 by a new law. *The Water Code* was adopted in 2000 and amended and supplemented in 2008, 2009, 2011 and 2012. *The Land Code* was adopted in 1996, amendments and additions were made to it in 1999, 2001, 2004, 2006, 2008, 2011 and 2012. *The Forest Code* was adopted in 1993 with amendments and additions that were made in 1997 and 2008.

48. Other important environmental regulations, laws and regulations relevant to the project are listed in Table 1.

Table1: Relevant laws on environmental, health and safety in the Republic of Tajikistan

Law	Date of adoption and amendments/additions	Responsible institution	Brief description
Law on Environmental Protection	No. 760, adopted in August 2011	Committee for Environmental Protection (CEP) and its district-level units	The Law defines the state principles of environmental protection and sustainable socio-economic development, guarantees of human rights to a healthy and favorable environment, strengthening of the rule of law, prevention of negative impacts of economic and other activities on the environment, management of rational use of natural resources, and ensuring environmental safety. Chapter 6 requires an environmental impact assessment, and Chapter 7 establishes requirements for the siting, design, construction, reconstruction, and commissioning of enterprises, buildings, and other facilities.

Law	Date of adoption and amendments/additions	Responsible institution	Brief description
Law on Environmental Impact Assessment	No. 1448, adopted on July 18, 2017	CEP and its district-level units	The Law establishes the legal and organizational basis for environmental impact assessment, relations with the state environmental expertise, as well as the procedure for registration and classification of environmental impacts.
Law on Environmental Monitoring	No. 707, adopted on March 25, 2011	CEP and its district-level units	The Law defines the organizational, legal, economic, and social basis for ensuring environmental monitoring in the Republic of Tajikistan and regulates relations between state authorities, local self-government bodies of towns and villages, public associations, and citizens in this area.
Law on Environmental Information	No. 705, adopted on March 25, 2011	CEP and its district-level units	The Law defines the legal, organizational, economic, and social basis for ensuring environmental information in the Republic of Tajikistan, promotes the realization of the right of legal entities to receive complete, reliable, and timely environmental information, and regulates relations in this area.
Law on Environmental Expertise	No. 818, adopted on April 16, 2012	CEP and its district-level units	This Law defines the principles and procedure for conducting environmental expertise and is aimed at preventing the harmful impact of planned economic and other activities on the environment and the associated social, economic, and other consequences of the implementation of the environmental expertise object.
Land Code of the Republic of Tajikistan	Adopted in 1996, latest amendments and additions made in 2016	State Committee for Land Management and Geodesy (SCLMG) and its district-level units	Land legislation regulates relations on the use and protection of lands, land use, and property relations arising from the acquisition or transfer of land use rights.
Law on Specially Protected Natural Territories	Adopted on December 26, 2011, latest amendments and additions made in 2014	State Institution for Specially Protected Natural Territories of the Forestry Agency and its district-level units	The Law defines the legal, organizational, and economic basis of specially protected natural territories, establishes their purpose, procedure of activity, and zoning.
Law on Quarantine and Plant Protection	No. 1567, adopted on January 2, 2019	CEP and its district-level units; Ministry of Agriculture (MoA); Forestry Agency; Tajik Academy of Agricultural Sciences (TAAS)	The Law defines the legal, organizational, and economic basis of quarantine and plant protection, the conduct of quarantine phytosanitary measures, the handling of plant protection products, and is aimed at preserving agricultural products, protecting the health of people, animals, and the environment.

Law	Date of adoption and amendments/additions	Responsible institution	Brief description
Law on the Protection and Use of Plants	Adopted on May 17, 2004, latest amendments and additions made in 2008	CEP and its district-level units; MoA; and TAAS	The Law defines state policy in the field of protection and rational use of plants; defines the legal, economic, and social principles regulating the conservation and reproduction of plants.
Law on the Protection of Plant Varieties	Adopted on December 29, 2010, latest amendments and additions made on January 2, 2018	Ministry of Agriculture (MoA); Tajik Academy of Agricultural Sciences (TAAS)	The Law regulates the legal protection of plant varieties and defines the legal basis for granting and protecting the rights of breeders.
Law on the Collection, Conservation and Rational Use of Genetic Resources of Cultivated Plants	Adopted on August 1, 2012	Ministry of Agriculture (MoA); Tajik Academy of Agricultural Sciences (TAAS)	This Law establishes the legal basis of state policy in the field of genetic resources of cultivated plants and their wild relatives and regulates relations regarding their collection, conservation, study, and rational use for the agro-industrial complex, ensuring food, environmental, and biological security, carrying out research, breeding, and educational activities, as well as ensuring the preservation of social, cultural, and historical heritage in the interests of present and future generations.
Law on Seed Production	Adopted on January 5, 2008, latest amendments and additions made on November 23, 2015	Ministry of Agriculture (MoA); Tajik Academy of Agricultural Sciences (TAAS)	This Law establishes the legal basis for the production or propagation, processing, certification, and sale of seeds, seedlings, and plants, as well as the organization and conduct of variety registration and seed control.
Forest Code of the Republic of Tajikistan	Adopted on August 2, 2011	Forestry Agency; CEP and its district-level units; MoA	The Law regulates the protection, ownership, rational use, and reproduction of forests in Tajikistan. It defines prohibited activities in forest protection zones and their regimes, and the conditions for carrying out permitted activities in the forest use zone and their regimes.
Law on the Preservation and Use of Historical and Cultural Heritage	Adopted on March 3, 2006	Ministry of Culture; Academy of Sciences of the RT; CEP; Forestry Agency	The Law establishes the legal basis for the preservation and use of historical and cultural heritage sites of Tajikistan as the national heritage of the Tajik people.
Law on Subsoil	Adopted on July 20, 1994, latest amendments and additions made in 2013	Main Directorate of Geology; CEP	The Law regulates the use and protection of subsoil in the interests of present and future generations.
Law on Soil Protection	Adopted on October 16, 2009	CEP; SCLMG; MoA	The Law defines the basic principles of state policy, the legal basis for the activities of state authorities, individuals, and legal entities for the effective and safe use of soils, preservation of quality, fertility, and protection of soils from negative

Law	Date of adoption and amendments/additions	Responsible institution	Brief description
			impacts, and regulates various relations related to soil protection.
Water Code	Adopted on October 20, 2000, latest amendments and additions made in 2012	CEP, Ministry of Energy and Water Resources (MoEWR), MoA; Main Directorate of Geology; MoHSP	The objectives of the Water Code are: (i) protection of the state water fund and state water fund lands to improve the social situation of the population and the environment; (ii) combating water pollution, contamination, depletion, prevention, and control of adverse water impacts; (iii) improvement and protection of water bodies; (iv) strengthening legality and protecting the rights of individuals and legal entities in the field of water resource management.
Law on the Protection of Atmospheric Air	Adopted in 1995 with amendments and additions of December 28, 2012	CEP; MoHSP; Agency for Hydrometeorology	The Law regulates the relations of individuals and legal entities, regardless of ownership forms, in order to preserve, improve atmospheric air, and ensure environmental safety.
Health Code	Adopted on May 30, 2017	MoHSP	The Code regulates relations in the field of healthcare and is aimed at realizing constitutional rights and protecting the health of citizens. Chapter 17 of the Code ensures sanitary and epidemiological safety.
Law on Production and Consumption Waste	No. 109, adopted on May 10, 2002, latest amendments and additions made in 2011	CEP; MoHSP; State Unitary Enterprise "Hojagii Manziliyu Kommunali" (HMK)	The Law regulates relations arising in the process of generation, collection, storage, utilization, transportation, neutralization, and disposal of waste, as well as state management, supervision, and control in the field of waste management. It is aimed at preventing the negative impact of production and consumption waste on the environment and human health, and, when handling them, involving them in economic and production turnover as an additional source of reserves.
Law on Inspection of the Activities of Economic Entities	No. 1269, adopted on December 25, 2015	State Technical Supervision Inspectorate, CEP, Ministry of Labour, Migration and Employment of the Population (MoLMEP)	The Law establishes the legal basis for conducting inspections, the procedure for their conduct, the rights and obligations of business entities, and officials of inspecting bodies, and is aimed at protecting health, legitimate rights and interests of citizens, the environment, national security, and protecting the activities of inspected economic entities regardless of ownership forms.

Law	Date of adoption and amendments/additions	Responsible institution	Brief description
Law on the Protection of the Population and Territories from Natural and Technogenic Emergencies	Adopted on July 15, 2004	Committee for Emergency Situations and Civil Defense (CESCD) and its structural units	The Law defines the organizational and legal basis for the protection of the population and stateless persons on the territory of the Republic of Tajikistan, as well as lands, internal territories, water, air space, animal and plant world, and other natural resources of the Republic of Tajikistan; production and social facilities; the environment from natural and technogenic emergencies. It regulates public relations on the prevention, occurrence, and development of emergencies, reduction of damage and losses, liquidation of emergencies, and timely notification of the population in hazardous zones during natural and technogenic emergencies.
Law on Wildlife	Adopted on January 5, 2008	CEP; MoA; Academy of Sciences; Forestry Agency	The Law regulates public relations in the field of protection, restoration, and rational use of wildlife; establishes the legal, economic, and social basis for the protection and restoration of wildlife resources.
Labor Code of the Republic of Tajikistan	Adopted on July 23, 2016	MoLMEP; MoHSP	The Code regulates labor and other relations and is directly aimed at protecting the rights and freedoms of parties in labor relations, ensuring minimum guarantees of labor rights and freedoms.
Law on Fire Safety	Adopted by On April 20, 2008, the last changes and additions were made to the 2010	Main Directorate of the State Fire Service (SBS) of the Ministry of Internal Affairs (MIA)	The law defines the general legal, economic, social and organizational foundations of fire protection in the Republic of Tajikistan; regulates relations between state bodies, local self-government bodies, organizations, other legal entities, regardless of organizational and legal forms, as well as between state bodies, officials and citizens of the Republic of Tajikistan, foreign citizens and stateless persons.

49. These laws, as well as regulations approved by the Government, create a favorable legal basis for environmental protection, use and protection of the country's natural resources. They also ensure the rights of citizens to environmental safety, environmentally friendly products, environmentally friendly environment, access to environmental information and the opportunity to invest (morally, materially and financially) in improving the environmental situation in the country.

50. *Framework Law on Environmental Protection.* The Environmental Protection Framework/Law on Environmental Protection was adopted in 2011 (July 21, 2011, No 208). The previous Law on Nature Protection was adopted in 1993 and was amended and supplemented in 1996, 2002, 2004, which expired in 2011. The Law also provides for measures to ensure the rights of society and the individual to a safe and healthy environment and requires a unified system of environmental expertise and environmental impact

assessment in relation to any decision on activities that may have a negative impact on the environment. The Law also defines environmental emergencies and disasters and establishes the procedure for dealing with such situations, determines the obligations of officials and enterprises to prevent and eliminate the consequences, as well as the liability of persons or organizations that have caused damage to the environment or the ecology otherwise violated the Law. The Law establishes several types of control over compliance with environmental legislation: state control, ministerial control, enterprise control and public control. The state control is carried out by the Committee for Environmental Protection, the Sanitary Inspectorate of the Ministry of Health, the Industrial Safety Inspectorate and the Mining Inspectorate. The amendments and additions that were adopted in 2014 allow environmental inspectors to use firearms and other special means. Public control is carried out by public organizations or trade unions and can be carried out in relation to any state body, enterprise, legal entity or individual. The law also contains several articles related to agriculture. They regulate, for example, the use of fertilizers and pesticides, the use of biological and chemical substances and the protection of food products from such contamination, soil protection and rational use of land, as well as protection from pollution from livestock farms.

51. *Water Code.* The Water Code (2000) defines policies in the field of water resources management, permitting, dispute resolution, use planning and cadastre. It promotes the rational use and protection of water resources by all beneficiaries and defines the types of water use rights, the powers and roles of regional and local authorities in water distribution among different users, charging fees, water use planning, water use rights and dispute resolution. The Code delegates to water user associations the authority to operate and maintain on-farm irrigation and drainage infrastructure. Since 2010, the Water Code 2000 has been amended and supplemented in 2011 and 2012. In 2011, users of hydropower sources generating less than 30,000 kWh of electricity were exempted from payment for the use of water resources. In 2012, a new chapter on basin water management was added to the Code. It provides for the establishment of a National Water Council to coordinate the activities of various basin water management bodies and develop basin plans for the use and protection of water resources, as well as the establishment of basin water councils.

52. *Land Code. The* current Land Code (1992) defines the types of land use rights, the powers and roles of regional and local authorities in the allocation of land, the collection of land taxes, land-use planning, the mortgage of land use rights and the resolution of land disputes. This Law defines the rights of land users and tenants, as well as the use of special land for the purposes of land privatization and restructuring of farms. The Law does not provide for the purchase and sale of allocated land. The Land Code regulates land relations and aims at the rational "use and protection of land and soil fertility ...[17] Land can only be used rationally, and the Code allows local public authorities to decide what constitutes a "rational" use of land. It also includes mechanisms to revoke land use permits from farmers, including in situations where the use of land leads to land degradation.

53. *Land Administration* (2001). The law obliges the authorities to map and monitor land quality, including soil pollution, erosion and waterlogging

54. *Regulation of the use of agrochemicals. The* handling, use, transport and storage of pesticides and fertilizers are regulated by a number of legal instruments (*see Table 2*).

Table2: Laws and regulations regarding the use of agrochemicals in the Republic of Tajikistan

- the Law on Environmental Protection (2011);
- the Law on Environmental Impact Assessment (2011);
- Factory Quarantine Act (No5, 12.05.2001), 2001, as amended in 2003.
- Act of 22 April 2003 on the production and safety effects of pesticides and agrochemicals.
- Decree on Plant Quarantine (N38, 4.02.2002) on the establishment of the State Plant Quarantine Inspectorate (Service) of 2002.
- Law of the Republic of Tajikistan "On Plant Protection" for No 817 dated April 16, 2012.
- Law No. 2 of 22 April 2003 on the production and safe handling of pesticides and agrochemicals.

[17]Land Code (1992)

- Government Decision No. 92 on the Establishment of the Commission on Chemical Safety of the Republic of Tajikistan dated 3 March 2003.
- List of Chemical Substances and Biological Preparations Permitted for Use in the Republic of Tajikistan, approved by the Decision of the Commission on Chemical Safety of the Republic of Tajikistan dated June 11, 2004 No 4.
- Government Decree "On Approval of the List of Especially Dangerous Pests" No 477 of August 31, 2012.
- Government Decree "On the Program for Combating Pests and Diseases of Orchards and Vineyards for the Period 2011-2015" No 625 of December 3, 2010.
- Government Decree "On Approval of the Program for the Development of the Cotton Sector in the Republic of Tajikistan for 2010-2014" No 586 dated October 31, 2009.

55. *Transport sector. The* Law "On Ensuring the Environmental Safety of Road Transport" of 2015 provides for the introduction of environmental classification of imported vehicles, verification of the environmental condition of vehicles, the introduction of technical standards for fuel, the production and sale of clean fuels, systematic control of fuel quality, the introduction of technologies for the recycling or neutralization of batteries, as well as the environmentally sound disposal of used vehicles, waste tires and used tires, batteries and used motor oils (Chapter 12).

56. *Health sector. In* 2011, amendments and additions to the Law "On Ensuring the Sanitary and Epidemiological Safety of the Population" of 2003 introduced the concept of sanitary and epidemiological expertise, which establishes the compliance of project documentation and economic activities with state sanitary and epidemiological norms and rules, as well as strengthened the provisions on sanitary, anti-epidemic and information measures. The Law on Food Safety of 2012 was adopted instead of the previous law of 2002 and contains more detailed requirements for the production, packaging, labeling, storage, transportation, sale and import of food products.

57. *Agricultural sector. Since* 2010, new laws have been enacted, including the Plant Protection Act of 2012, which regulates, among other things, the use and disposal of pesticides; the Pastures Act of 2013, which aims to ensure the optimal use of pastures through their monitoring, registration and state expertise; and the Biological Diversity Management and Production Act of 2013, which introduces criteria for biological production and requirements for the handling, storage, transport, packaging, labelling and certification of biological products, which is a step towards organic farming (Chapter 9).

69. The Law "On State Regulation of Ensuring the Fertility of Agricultural Land" of 2004 defines state policy regarding ensuring soil fertility, including through standards and regulations for agrotechnical, agrochemical, irrigation and drainage measures. The law obliges land users to report on the use of agrochemicals and pesticides, as well as to comply with the rules and regulations of agrotechnical, agrochemical, reclamation, phytosanitary and anti-erosion measures.

70. The Law on Dehkan Farms, adopted in 2016 to replace the 2009 Law on the same issue, provides a legislative framework for the establishment and operation of private dehkan farms. If, in accordance with the 2009 Law, dehkan farms were economic entities operating without the formation of a legal entity, the new Law allows dehkan farms to obtain the status of legal entities. The law improves the management of dehkan farms and defines the rights and obligations of their members. It allows farmers to legally build field camps on the land as temporary structures, which makes it possible to significantly increase labor productivity during the agricultural season. The law obliges dehkan farms to take measures to increase soil fertility and improve the environmental condition of land, pay for water and electricity in a timely manner, and provide statistical information to state bodies.

71. The Veterinary Law of 2010 regulates the protection of the population from epizootic diseases, including their prevention and elimination, establishes measures to ensure the safety of food products of animal and plant origin, as well as the safety of veterinary drugs, feed and feed additives.

72. The 2010 Law on Food Security pays special attention to the distribution of state support funds on a competitive basis among national agricultural producers within the framework of state policy to ensure food security.

73. The Law on the Collection, Conservation and Sustainable Use of Plant Genetic Resources of 2012 establishes the legal framework for public policy in the field of genetic resources of cultivated plants and their wild relatives and regulates their collection, conservation and sustainable use in agriculture and food production.

74. The Biological Management and Production Act of 2013 establishes the legal framework for biological (organic) management activities, including the production, processing, storage, import and export, transportation, packaging, labelling and sale of organic products, i.e. products produced without the use of GMOs or chemical and synthetic substances, with the rational use of water in the production process. The law establishes a system of standards and certification for organic products.

75. The law defines the powers of local administrations to control environmental safety and pasture use in accordance with state rules and standards. The law prohibits the implementation of a number of pasture activities, such as cutting down trees or shrubs, building roads, misuse of pasture land, pollution of the environment with waste and grazing in excess of the established norm. The law requires users to ensure the efficient use of pastures, including the protection of pastures from degradation and pollution.

76. The Fisheries, Fisheries and Fisheries Protection Act 2013 regulates commercial and recreational fish farming, fish stocks, fisheries, fishing restrictions and measures to protect fish resources (Chapter 1)

77. Pest control in the Republic of Tajikistan and regulation of the use of agrochemicals. *Main issues of pest control*[18]. A detailed analysis of the current pest management practices in the Republic of Tajikistan has identified several shortcomings that will continue to constrain sustainable agricultural production. These shortcomings are identified as follows[19]:

- Lack of a government policy on IPM that provides a framework and conditions to facilitate the development and implementation of integrated cotton pest management strategies;
- Dominance of the current pest management system through the overuse of chemical pesticides;
- Poor practical knowledge and understanding by farmers, field crop protection agents and extension specialists about the local agroecology of the agricultural production system, integrated nutrient management in the plant, pests and their natural enemies and their interactions. And the role of natural enemies in the natural regulation of pest populations;
- Lack of field training for farmers on the safe handling, storage and use of chemical pesticides;
- Improper organization of training of farmers in the correct methods of spraying agricultural fields with chemical pesticides and maintenance of equipment for their application;
- Lack of supply and distribution of appropriate protective equipment to protect farmers from pesticide hazards when spraying agricultural fields, as well as lack of appropriate on-site training and effective dissemination of information on the use of protective equipment, and lack of a coordinated system for providing technical advice to the farming community on the handling and proper maintenance of protective equipment;
- Inadequate on-site training and dissemination of information to users about the dangers associated with the improper handling, use and storage of chemical pesticides;
- Weak pesticide regulatory mechanisms, such as quality controls, residue analysis, and weak capacity to enforce pesticide regulations.

78. *Existing methods of pest control.* Currently, farmers use a number of traditional methods of insect pest control, including[20]:

[18]Данный раздел был подготовлен в основном с использованием результатов экспертных оценок, проведенных в рамках проектов ПППХ ВБ и АБР по устойчивому подсектору

[19]Проект ВБ по поддержке приватизации хозяйств. Экологическая оценка, том II Руководство по комплексной борьбе с сельскохозяйственными вредителями, стр.

[20]Проект ВБ по поддержке приватизации хозяйств. Экологическая оценка, том II Руководство по комплексной борьбе с сельскохозяйственными вредителями, стр.

- Soil tillage techniques, including deep tillage by burying straw and vegetation to deprive pests of their wintering/hibernating grounds.
- Burning straw and crop waste to destroy pest wintering grounds and convert straw into organic matter.
- Manual weeding of fields in most dehkan farms.
- Cutting and burning diseased or egg/insect infested leaves.
  Using baits to collect worms and caterpillars, such as pheromone traps for pheromone traps for cotton worms.
- Manual collection of eggs, caterpillars and larvae during periods of severe infestation.

79. *Chemical control methods used.* Although the Republic of Tajikistan was one of the leaders in biological crop pest control during the Soviet era, today most pest control is carried out by chemical methods, mainly due to the lack of beneficial insects in biological control facilities. Studies and field visits have shown that there is a lot of reliance on chemical control methods, especially in the lower valleys with cotton monoculture. The main problems in the use of chemical control methods are as follows[21]:

- Use of WHO Class 1 chemicals and unregistered chemicals purchased on the black market;
- Improper handling – the storage, use and safety of pesticides;
- Improper disposal of waste and packaging of chemicals;
- Insufficient compliance with laws and regulations on the labelling and sale of agricultural chemicals;
- Low level of awareness of KBSV among officials, farmers and chemical dealers/traders;
- A general lack of awareness about the environmental and health consequences of misuse of pesticides.

80. *Current pesticide use. It* is known that in the 1970s and early 1980s, pesticide use, especially for cotton production, was extremely intensive, with an average of 24.1 kg per hectare per year in cotton fields. The highest level of pesticide use was recorded in the Vakhsh Valley, where it reached 48 kg per hectare. Highly toxic pesticides include butyphos, nitrophene, thiodane and fosalon[22]. In the 1990s, due to the collapse of the Soviet agricultural system and the civil war, pesticide use was low and amounted to approximately 6-10% of pre-independence levels.

81. Permitted pesticides in the country. The Commission on Chemical Safety of the Republic of Tajikistan (the body responsible for issuing permits for the use of pesticides in the country) has issued a list of agrochemicals authorized in the territory of the Republic of Tajikistan[23]. Among them, the following pesticides are currently used on cotton: (a) Karate-ICI (Zeneca), [insecticide]; (b) Omite-Crompton, [insecticide]; (c) Sumi-Alpha (esphenbalerate); (d) Sumimoto, [insecticide]; (e) Sumimoto Chemical, [insecticide]; (f) Folicur (tebuconazole)-Bayer [fungicide]; (g) Talstar 10% (bifenthrin), FMS, SMA [insecticide][24].

82. *Regulation of the import and use of pesticides.* The Republic of Tajikistan does not produce pesticides and uses only imported ones. As mentioned above, the Commission on Chemical Safety manages the system of registration, testing and control of imported pesticides. The Commission also approves new pesticides at the request of manufacturers or distributors. Insufficient funding of law enforcement agencies and the black market for agricultural chemicals, combined with rather weak control over the import of substances (mainly due to the remoteness of border checkpoints and insufficient training of customs

[21]Там же
[22]Экономический и Социальный Совет ООН. Обзоры результативности природоохранной деятельности Таджикистана. Первый обзор, 2004 год.
[23]См. *Приложение* --..
[24]Азиатский банк развития. Экологический обзор проекта "Устойчивый подсектор хлопка". 2006 год, март, проведен Н. Надирадзе

inspectors), make the control over the import of agrochemicals largely ineffective.

83. *Pesticide management at the farm level*. Currently, most dehkan farmers do not have special storage facilities for pesticides and other agrochemicals. Therefore, dehkans usually store pesticides in the basements of their homes or in small tool sheds in their yards[25]. Most dehkans cannot afford to purchase high-quality pesticides, sprayers, or protective clothing. Although some dehkan farmers have pesticide sprayers, these sprayers are outdated and cannot be used safely. Dehkan farmers do not use protective clothing/equipment (gloves, goggles, masks, boots, or gowns) when spraying cotton or other crops with pesticides. Containers and packaging, especially those from local (illegal) or regionally produced products (Uzbekistan, China), are inadequately labeled, sometimes labeled in unfamiliar languages, especially on products smuggled in by local traders. Therefore, the basic precautions for handling, application and disposal are often illegible and/or overlooked.

84. *Integrated pest management.* At present, there is no public policy on IPM that provides a framework and conditions to facilitate the development and implementation of integrated pest management strategies in the cotton sector. Consequently, there is currently a complete lack of government support for the development and implementation of alternative pest management methods, especially due to the lack of budgetary resources.

85. The handling, use, transport and storage of pesticides and fertilizers are regulated by a number of legislative instruments (*see table* 3).

Table3: Laws and regulations related to the use of agrochemicals in the Republic of Tajikistan

- the Law on Environmental Protection (2011);
- the Law on Environmental Impact Assessment (2012);
- The Law on Quarantine and Plant Protection was adopted by the Decree of MN MORT dated November 28, 2018, *№1233*
- Government Decree No. 191 of April 26, 2008 "On the Ministry of Agriculture of the Republic of Tajikistan" (as amended by the Decree of the Government of the Republic of Tatarstan dated 08.10.2012.*№570*)

86. *The Law on Environmental Protection* indicates the need to apply minimum permissible standards of agrochemicals in agriculture and forestry to ensure compliance with the minimum permissible quantities in food, soil and water. A specially adopted law in this area (the Law on the Production and Safety Effects of Pesticides and Agrochemicals) prohibits the use of biologically and environmentally resistant pesticides, and products known to be carcinogenic, mutagenic, teratogenic, embryo- and gonadotoxic in accordance with the International List of Potentially Toxic Chemicals of the United Nations Environment Program.

87. *The Law on Environmental Expertise* (2012) and the Decree on the Establishment of the Commission on Chemical Safety (2003) establish the legal framework for the registration and use of pesticides and other chemicals. These substances and compounds must undergo mandatory state tests in laboratories and at production (field) facilities to assess their biological, toxicological and environmental characteristics. If the test results are positive, the substance or compound must be registered with the Commission on Chemical Safety and included in the List of Chemicals and Biological Compounds Approved for Use. The Commission manages the system of registration, testing and control of pesticides[26]. It is headed by the Deputy Prime Minister and includes representatives of, among others: the Committee for Environmental Protection, the Ministry of Health and Social Protection of the Population and the Ministry of Agriculture.

88. *Quarantine*[27]. In 2001, at the technical review workshop of the Union of Independent States

[25]Команда проекта СОЗ. По словам г-на Джураева, осенью правоохранительные органы г. Худжанда задержали мужчину и конфисковали у него 500 тонн контрабандных пестицидов из Узбекистана. Мешки с пестицидами хранились в подвале у мужчины.

[26]Европейская экономическая комиссия ООН: Обзор экологической деятельности Таджикистана, 2017 год http://www.unece.org/env/epr/studies/Tajikistan/welcome.htm

[27]Проект ВБ по общинному сельскохозяйственному производству и управлению водосборными бассейнами в

(several countries of the former Soviet Union) and the Baltic countries, data on quarantine and phytosanitary conditions in the countries of the former Soviet Union were published. An agreement on coordination in the field of plant quarantine for the above countries was signed on November 13, 1992 in Moscow. In 1997, at the 6th conference, the countries agreed to adopt a single list of pests subject to quarantine, common quarantine rules for the import, export and transit of goods, and to provide information on the spread of pests in the territory of the countries. Since then, little has changed.

89. *The Law on Quarantine and Plant Protection* (dated November 28, 2018) defines the legal, organizational and economic basis for quarantine and plant protection, quarantine phytosanitary measures, handling of plant protection products and is aimed at preserving agricultural products, protecting the health of people, animals and the environment.

90. *Government Decree No. 191 of April 26, 2008 "On the Ministry of Agriculture" (as amended by the Decree of the Government of the Republic of Tatarstan dated 08.10.2012.*№570*)* Indicates the structure of the central office, the management scheme, the list of enterprises and institutions of the system, as well as services and inspections included in the management scheme of the Ministry of Agriculture of the Republic of Tajikistan (Appendix 1, 2, 3, 4).

91. Qualification requirements for individuals and legal entities of the Republic of Tajikistan carrying out activities on the use of pesticides by aerosol and fumigation methods are:[28]

- The use and treatment are regulated in terms of the availability of special machinery and equipment for the use of pesticides that ensure the safety and quality of chemical treatment;
- availability of special storage facilities for pesticides that comply with sanitary and epidemiological rules and standards,
- building codes and regulations,
- fire safety requirements;
- compliance with environmental requirements,
- sanitary and epidemiological rules and standards,
- occupational health and safety; personal protective equipment;
- fire extinguishing equipment;
- qualified personnel with appropriate education and training, with practical experience in the use of pesticides by aerosol and fumigation methods.

92. For the purpose of storage and disposal of expired and prohibited pesticides and their packaging, special landfills are used. The state environmental control body is responsible for issuing permits for the construction of landfills and neutralization of pesticides. Neutralization of pesticides purchased at the expense of the state budget is the responsibility of the Ministry of Agriculture and the local state authority (local budget). Legal entities and individuals whose activities are related to the objects of state phytosanitary control are obliged to neutralize pesticides. However, in the Republic of Tajikistan there are only 2 facilities officially approved by the Committee for Environmental Protection for the storage or disposal of unused pesticides, or their packaging in Vakhsh and Kanibadam.

3.1.2. Regulatory framework in the field of environmental assessment

93. Framework Law on Environmental Protection. The Framework Law "On Environmental Protection"/Law on Environmental Protection was adopted in 2011 (July 21, 2011, No 208). The previous Law "On Nature Protection" was adopted in 1993 with amendments and additions in 1996, 2002, 2004 and became invalid in 2011. The Law establishes that the environmental policy of Tajikistan should give

Таджикистане. (ПОСПУВБ), План борьбы с сельскохозяйственными вредителями, 2004 год.

[28]Проект ВБ по поддержке приватизации хозяйств (ППФХ) в Таджикистане. План комплексной борьбы с сельскохозяйственными вредителями, 2005 год.

priority to environmental protection measures based on scientifically based principles of combining economic and other activities that have an impact on the environment with nature protection and rational use of resources. The Law also defines the applicable legal principles, protected facilities, the competence and role of the Government, the State Committee for Environmental Protection, local authorities, public organizations and individuals. The Law also defines environmental emergencies and environmental disasters and prescribes the procedure for dealing with such situations, defines the responsibilities of officials and enterprises to prevent and eliminate the consequences, as well as the liability of persons or organizations that have caused damage to the environment or otherwise violated the Law. The Law establishes several types of control over compliance with environmental legislation: State Control, Ministerial Control, Enterprise Control, and Public Control. State control is carried out by the Committee for Environmental Protection, the Sanitary Inspectorate of the Ministry of Health, the Industrial Safety Inspectorate, and the Mining Inspectorate. An amendment to the law adopted in 2014 allows environmental inspectors to use firearms and other special means. Public control is carried out by public organizations or trade unions and can be carried out in relation to any state body, enterprise, organization or individual. The law also has several articles related to agriculture. They regulate, for example, the use of fertilizers and pesticides, the use of biological and chemical substances and protection against such contamination of food, soil protection and rational use of land, protection against pollution of livestock farms.

94. **State Environmental Expertise. The** Law on Environmental Protection No 208 (2011), the Law on State Environmental Expertise (2011) and the Procedure for Organizing and Conducting Environmental Expertise (2014) stipulate that all types of economic and other activities must be carried out in accordance with environmental standards and norms and have sufficient environmental protection and mitigation measures to prevent and prevent pollution and improve the quality of the environment. They define the process of State Environmental Expertise (SEER), during which the compliance of the proposed activities and projects with the requirements of environmental legislation and standards, as well as the environmental safety of society is verified.

95. Financing of programmes and projects, as well as decisions on siting, construction or refurbishment, shall be permitted only after a positive SEE opinion has been obtained. If these requirements are violated, the CEP and/or other duly authorized supervisory bodies may terminate construction until necessary improvements have been made. Responsibility for conducting SEE for investment projects rests with the CEP and its field offices.

96. **Administrative Framework for Environmental Assessment.** The Law on Environmental Protection (2011) states that SEE is carried out by the State Committee for Environmental Protection. The relevant unit of the committee is entrusted with the management and management of both the EIA and SEE processes.

97. EIA studies. The preparation of an environmental impact assessment (EIA) study is the responsibility of the project initiator. The EIA should analyse the short-term and long-term environmental, genetic, economic and demographic impacts and impacts of projects and should comply with the standards of other sectors and sectoral environmental agencies (sanitary, epidemiological, geological, aquatic, etc.).

98. **Environmental expertise. The** CEP is the body responsible for the state assessment of EIA and environmental expertise of construction works.

3.1.3 Requirements for environmental assessment in the Republic of Tajikistan

99. There are two laws in the country that stipulate all aspects of environmental expertise: (i) *the Law on Environmental Protection* (2011); and (ii) *the Law on* Environmental Expertise. Chapter V, Articles 35, 39 of the Law on Environmental Protection (2011) introduces the concept of state environmental expertise (literally, state environmental expertise or SEE), the purpose of which is to examine the compliance of proposed activities and projects with the requirements of environmental legislation and standards and the environmental safety of society.

100. The following activities and projects are subject to state environmental expertise:

- Draft state programs, pre-plan, pre-project and project documentation for economic development;
- Regional and sectoral development programs;
- Territorial and urban planning, development and design;
- Environmental programs and projects;
- Construction and reconstruction of various types of facilities regardless of their forms of ownership;
- Draft standards for the quality of the environment, and other regulatory, technological and methodological documentation regulating economic activity;
- Operating enterprises and economic entities.

101. EIA is a component of SEER, as specified in the *2011* Law of the Republic of Tajikistan "On Environmental Protection" *and the 2012 Law of the Republic of Tajikistan "On State Environmental Expertise*", which include both the CEP department and the process itself.

102. According to *the Law of the Republic of Tajikistan "On Environmental Expertise"* of 2012, environmental expertise is designed to prevent negative environmental impacts resulting from proposed activities, to predict the impact of activities that are not necessarily considered harmful to the environment, and to create a database on the state of the environment and knowledge of human impact on the environment.

103. *The Law on Environmental Expertise* and *the Law on Environmental Protection* provide for two types of environmental expertise: SEE and public environmental expertise, which are not given equal importance. If SEE is a prerequisite for the commencement of any activity that may have a negative impact on the environment, public environmental expertise becomes mandatory only after its results have been approved by the SEE body.

104. The SEE Authority is authorized to invite leading scientists and qualified third-party experts to participate in the review. The approval must be issued within 30 days, unless the project developer agrees to an extension, and remains in force for two years if the decision is positive. For very complex projects, the review and approval period may be extended to 60 days.

105. In accordance with *the SEE Act*, a public environmental expert review of economic or other activities that may have a negative impact on the environment or the population living in the relevant territory may be carried out by any voluntary organization or citizen. They have the right to submit proposals to the responsible State bodies on environmental issues relating to the implementation of the proposed activities and to receive information from the relevant responsible bodies on the results of the SEE carried out. The materials reflecting the public expert examination received by the expert commission must be taken into account when preparing the SEE report and when making a decision on the implementation of the SEE facility. Public environmental expertise is carried out at the time of state registration of the application of public organizations. Registration may be carried out by local executive authorities (within seven days) at the place where the expert examination is planned to be carried out.

106. The EIA regulatory system also includes:

- Procedure for Environmental Impact Assessment (approved by the Decree of the Government of the Republic of Tajikistan dated 01.11.2018 No532): Methodological recommendations on the composition, procedure for the development, coordination and approval of design and estimate documentation for the construction of facilities, buildings and structures, and sections of EIA, SEE and FS;
- Procedure for the implementation of the SEE (approved*by the Decree of the Government of the Republic of TajikistanNo697*dated December 3, 2012);
- Guidance on the composition and procedure for the development of the content and structure of the documentation submitted for consideration (SEE), as well as the coordination and approval of all projected budget or investment estimates, design drawings or documentation

to be developed in agreement with the SEE, buildings and structures, and chapters of EIA, strategic environmental assessment (SEE) and techno-economic documents; and

- List of facilities and activities for which the preparation of environmental impact assessment documentation is mandatory (approved by the Decree of the Government of the Republic of Tajikistan No532 dated 01.11.2018). This list is very comprehensive: it contains 180 types of activities grouped into four categories of environmental impact: from A – "high risk" to D – "local impact"). If the facility/activity is not included in this list, then it is not required to undergo either EIA or SEE.

107. The developed current regulatory framework is designed to determine the legal framework for the implementation of projects and their compliance with state requirements for environmental protection and mitigation of environmental impact.

108. In the Republic of Tajikistan, the organizations with the greatest responsibility for environmental monitoring and management are CEP, the Sanitary Inspectorate of the Ministry of Health and Social Protection, the Industrial Safety Inspectorate and the Mining Inspectorate. An environmental licensing system exists for hazardous waste management and mining. The environmental permit system regulates the use of natural resources.

109. The Law of the Republic of Tajikistan *"On Environmental Protection"* states that the SEER must be carried out by the CEP, which is the authorized state body for environmental protection. The CEP is endowed with comprehensive powers, including the development of regulatory documents and inspections.

3.1.4. EIA procedure

110. Regulatory laws and activities subject to state environmental (or environmental) expertise (SEE) that may provide for EIA, or activities subject to SEE may include EIA.

111. The following types of impact are considered during EIA:

- *Direct* impact, which is directly affected by the main and auxiliary types of planned activities on the site;
- *Indirect* impacts, which are influenced by intermediate (secondary) factors arising from the implementation of the project; and
- *Cumulative* impact that has a specific nature and arises during the implementation of the project.

112. The results of the EIA are reviewed by the State environmental expertise in accordance with the purpose of the assessment and classification within a period of up to 60 days.

113. The decision to determine the appropriate SEE procedure for EIA documents shall be made by the authorized body within 10 days after the submission of the documents for registration. The decision to conduct a SEE in respect of EIA documents shall be binding on the customer for any planned economic or other activity.

114. There are four categories of environmental impact of facilities subject to SEE and EIA: I - high risk; II - medium risk; III - low risk; and IV - local impact. The requirements and conditions for SEE and EIA differ depending on the category of the facility

3.2. Key National Social Legal Provisions and Citizen Engagement

115. *The Law on Freedom of Information* is reinforced by Article 25 of the Constitution, which stipulates that state bodies, public associations and officials are obliged to ensure that everyone has the opportunity to receive and familiarize himself with documents affecting his rights and interests, except in cases provided for by law.

116. Under the *Law of the Republic of Tajikistan "On Public Associations*", a public association may be established in one of the following organizational and legal forms: a public organization, a public movement or a body of public initiative. Article 4 of this law establishes the right of citizens to form associations to protect common interests and achieve common goals. It refers to the voluntary nature of associations and defines the rights of citizens to refrain from joining and leaving an organization.

117. Article 10 *of the Assemblies, Rallies, Demonstrations and Peaceful Processions* Act prohibits persons convicted of administrative offences (i.e. non-criminal offences) under articles 106, 460, 479 and 480 of the Code of Administrative Offences from organising assemblies. Article 12 of the Act stipulates that organisers of assemblies must obtain permission from the local organ of State power fifteen days before organising a mass event.

118. *The Land Code of the Republic of Tajikistan* contains the main provisions on the acquisition of land for public and state purposes. The Code allows the state to withdraw land from land users for the needs of projects implemented in the interests of the state and on a national scale, describes the methods, system and procedure for protecting the rights and interests of persons whose land is subject to seizure for the purposes of the project, and also provides for a set of compensatory measures to cover the losses of land users. The Regulation on the Procedure for Compensation of Losses of Land Users and Losses of Agricultural Production, approved by the Decree of the Government of the Republic of Tajikistan No 641 of December 30, 2011, establishes the procedure for compensation of losses of land users and losses of agricultural production.

119. The Law of the Republic of Tajikistan *"On Appeals from Individuals and Legal Entities"* contains legal provisions on the established information channels for citizens to submit complaints, requests and claims. Article 14 of the Law establishes a time limit for the consideration of complaints, which is 30 days from the date of receipt.

120. *The Labour Code* prohibits forced labour (art. 8). The Labour Code also sets out the minimum age at which a child may be employed and the conditions under which children may work (arts. 113, 67 and 174). The minimum age for admission to employment is 15 years, but in some cases of vocational training light work may be permitted for 14-year-olds (art. 174 Labour Code). Examples of labor restrictions include: persons between the ages of 14 and 15 may not work more than 24 hours per week, while those under the age of 18 may not work more than 35 hours per week; during the school year, the maximum number of hours is half of that, 12 and 17.5 hours, respectively. These restrictions are in line with the ILO Convention on Minimum Age. In addition, the Law on Parental Responsibility for the Upbringing and Education of Children imposes on parents the responsibility to ensure that their children are not engaged in heavy and dangerous work and attend school.

121. The Law of the Republic of Tajikistan *"On Appeals of Individuals and Legal Entities"* (2016) contains legal provisions on the established information channels for citizens to submit their complaints, requests and dissatisfactions. Article 14 of the Law establishes the deadlines for the consideration of complaints – 15 days from the date of receipt, which do not require additional study and research, and 30 days for appeals that require additional study.

122. List of international treaties and conventions related to the involvement of citizens ratified by the Republic of Tajikistan:

- the Rotterdam Convention on the Prior Informed Consent Procedure (PIC) (1998);
- the International Covenant on Economic, Social and Cultural Rights;
- the Convention on the Elimination of All Forms of Discrimination against Women;
- Convention on Tripartite Consultation (International Labour Standards), (2014).

3.3. Compliance of the legislative framework on social aspects

123. The regulatory framework at the national and local levels provides an adequate and appropriate enabling framework for the implementation of the key activities supported by the Project. The response to the requests/questions of applicants and the accountability of society are sufficiently covered by the

legislative framework at different levels. The legislation emphasizes the importance of the state's obligation to serve and ensure the protection of citizens in general and people affected by the project in particular. The current laws on access to information, consumer rights, redress of grievances and codes of ethics establish the rules governing equitable services, as well as investments in strengthening sustainable agricultural systems that will be implemented during the implementation of the project.

3.4. National sectoral regulatory framework

124. The Republic of Tajikistan also has key policies and strategies that detail roadmaps for the country's short- and long-term development. For the seed and seedling sector, the Seed Sector Development Program for 2010-2014, adopted in 2009, and most recently, the National Development Strategy (NDS) for 2015-2030[29], which identifies priority areas for development, are relevant.

125. National Development Strategy (NDS) for 2015-2030: The following areas are relevant for the seed and seedling sector:

- Ensuring economic and physical access to food through sustainable growth of the agro-industrial sector;
- Diversification of agricultural production, including the introduction of innovations, increasing the attractiveness of the sector, especially for dehkan farms, through the formation and strengthening of value chains;
- Increasing access to improved seeds and fertilizers in the domestic market, increasing agricultural production by encouraging the use of new agricultural methods and technologies; and
- Developing the market for agricultural products and overcoming barriers to direct market access for agricultural producers.

Table4: State regulations and agreements relating to the certification, production and import of seeds and seedlings[30]

No p/n	Normative legal act	Challenge	Responsible Authority
1.	Agricultural Reform Program of the Republic of Tajikistan for 2012-2020	The purpose of agricultural reform is to ensure food security, provide the population with safe food, reduce food imports, and provide farmers with greater opportunities to increase incomes and profits.	Ministry of Agriculture, Working Group on Agricultural Reform
2.	Resolution "On the Regulations on the Food Safety Committee under the Government of the Republic of Tajikistan" dated December 29, 2017 No595	It is envisaged that the Committee should control the import of pests and diseases, as well as control the import, transit and export of GMOs.	Food Security Committee
3.	Government Decree No438 on approval of the Program for the Development of the Seed Sector in the Republic of Tajikistan for the period 2016-2020 (2016)	Promotion of seed production in order to improve the quality and production of seeds.	Ministry of Agriculture
4.	Government Decision No 793 on the approval of the Program for the Development of Horticulture and Viticulture for 2016-2020 (2015)	Distribution of investments in the sector.	Interdepartmental
5.	Government Decree No 724 on approval of the Program for the Development of Pastures of the Republic of Tajikistan for 2016-2020 (2015)	Improving the condition of pastures and providing fodder crops (obtained from seeds).	Ministry of Agriculture
6.	Strategic Program for Climate Resilience.	Climate change strategy, including	Government

[29]Правительство Республики Таджикистан, 2016 год. Национальная стратегия развития Республики Таджикистан на период до 2030 года.

[30]Республика Таджикистан: Национальный инвестиционный план для сельскохозяйственного сектора. Оценка семеноводческих и соответствующих систем Таджикистана, 2020 год

	(2015)	agriculture and sustainable land management.	
7.	Government Decree No 727 on Approval of the Program for the Organization and Rehabilitation of Refrigerators and Cold Storage Warehouses for Storage of Agricultural Products in the Republic of Tajikistan for 2015-2019 (2014)	Focus on improving the storage efficiency of agricultural products, including fruits and vegetables.	Government
8.	Agreement on multilateral interstate specialization of production and supply of seeds of varieties and hybrids of agricultural crops, planting material of fruits, berries and grapes.	Standards for seeds and planting material for multilateral trade.	Ministry of Agriculture

126. The main laws and standards related to the certification, production and import of seeds/seedlings and planting material are summarized in the table below.

Table5: Sectoral legislation

No p/n	Legislation/standard/regulatory legal act	Challenge	Responsible Authority
1.	Law of the Republic of Tajikistan "On Nurseries" dated January 2, 2020 No 1669	Certification and maintenance of kennels	Ministry of Agriculture
2.	Law of the Republic of Tajikistan "On Seed Production" of 2008, No355, as amended in 2015	Seed Sector Management	Ministry of Agriculture
3.	Order on control and certification of seed quality of 2010 No132	Standards for seedling certification and certification process.	Ministry of Agriculture
4.	Decree of the Government of the Republic of Tajikistan No. 595 on approval of the Regulations on the Committee on Food Security under the Government of the Republic of Tajikistan.	Authorization of the Committee for Control and Standardization of Seeds and Seedlings.	Food Security Committee
5.	Law of the Republic of Tajikistan "On Conformity Assessment"	Ensuring the identity of certification rules and procedures for domestic and foreign production.	Ministry of Agriculture
6.	Law of the Republic of Tajikistan "On the Protection of Plant Varieties" of 2018, No 1482.	Plant Variety Protection	Ministry of Agriculture, Republican Commission on Zonal Adaptation of Plant Species
7.	Order on Testing, Registration and Protection of Plant Varieties of 2011, No144	Plant Variety Protection (POPA)	Ministry of Agriculture, Republican Commission on Zonal Adaptation of Plant Species
8.	Law of the Republic of Tajikistan "On Grains", 2006, No 200	This law regulates the production, cleaning, storage and sale of grain, the management of the quality of grain as food, feed and used as seed grain.	Ministry of Agriculture
9.	Standard RT 1033-2000 Seedlings of pome and stone fruit crops, and persimmons. Varietal and planting qualities.	Standards for seed certification and certification process.	Ministry of Agriculture, Tajikstandart Agency
10.	Plant Protection Law No 1567	Plant quarantine of imported material	Ministry of Agriculture, Tajikstandart Agency
12.	Law of the Republic of Tajikistan "On Seed Production"	Testing, registration and protection of plant varieties	Ministry of Agriculture
13.	Law of the Republic of Tajikistan "On Food Security" (2010)	It determines the main directions of state policy in the field of food security as an integral part of state security.	Government
14.	Law of the Republic of Tajikistan "On	Provides for the regulatory	Ministry of Agriculture

	Dehkan Farms" No 1289 (2016)	framework for the establishment and operation of dehkan farms. Dehkan farms must be entrepreneurs engaged in the production, storage, processing and trade of agricultural products.	
15	Law of the Republic of Tajikistan "On Biological Safety" dated March 1, 2005, No 88 (as amended by the Law of the Republic of Tajikistan dated 30.07.2007, No 330)	Provides for the development, production, testing, export and placing on the market and in the environment of genetically modified organisms.	Food Security Committee

3.5. International Treaties and Obligations

127. Within the framework of the unified (monistic) legal system of the Republic of Tajikistan, international agreements and treaties, once ratified or acceded to by the Government, have the same force as national legislation. several international environmental conventions. The main ones are presented in Table 6.

Table6: Relevant international environmental conventions

International Convention	Year of accession
United Nations Convention on Biological Diversity (CBD), 1997. Relevant updates to the CBD are: the Cartagena Protocol on Biosafety to the Convention on Biological Diversity, 2004; the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Benefits Arising from their Utilization to the Convention on Biological Diversity The Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity, signed in 2011 and ratified in 2013.	1997
UN Framework Convention on Climate Change, 1998; The Kyoto Protocol, which the country acceded to on December 29, 2008 and entered into force on March 29, 2009, is a relevant update.	1998
United Nations Convention to Combat Desertification (UNCCD)	1997
Vienna Convention for the Protection of the Ozone Layer, 1996 and updated by the Protocol on Substances that Deplete the Ozone Layer (Montreal), 1998; London Amendments to the Montreal Protocol on Ozone-Depleting Substances, 1998; Copenhagen Amendments to the Montreal Protocol on Ozone-Depleting Substances, 2009; Montreal Amendments to the Montreal Protocol on Ozone-Depleting Substances, 2009; Beijing Amendments to the Montreal Protocol on Ozone-Depleting Substances, 2009.	1996
Convention on International Trade in Endangered Species of Fauna and Flora (CITES)	2016
Stockholm Convention on Persistent Organic Pollutants (POPs) (ratified in 2007); Relevant updates: 2009 amendments to include 9 new POPs on 26 August 2010; 2011 amendment to include endosulfan on 27 October 2012; and 2013 amendment to include hexabromocyclododecane on 26 November 2014.	2007
UNESCO Convention Concerning the Protection of the World Cultural and Natural Heritage	1997
Aarhus Convention (acceded in 2001); related update – Kiev Protocol on Pollutant Release and Transfer Registers to the Convention on Access to Information of 21 May 2003.	2003
Bonn Convention on the Conservation of Migratory Species of Wild Animals (acceded in 2001); updated by the Bukhara Memorandum on Deer, 2002.	2001

International Convention for the Protection of New Varieties of Plants UPOV Convention (1961), revised in Geneva (1972, 1978 and 1991).).	2012

128. Other relevant international agreements ratified by the Republic of Tajikistan are:

- *Convention on Occupational Safety and Health and Working Environment*, 1981
- *Convention on the Protection of Workers against Occupational Risks Caused by Air Pollution, Noise and Vibration at Work*, 1977

3.6. FAO Requirements

129. The Food and Agriculture Organization of the United Nations (FAO) has developed the Environmental and Social Governance Guidelines (2015) with 9 Environmental and Social Standards (ESSs). The nine ESS standards set specific requirements related to various social and environmental issues. Projects approved and supported by FAO must comply with these environmental and social standards.

130. ESA 3 defines plant genetic resources for food and agriculture (PGRFA) as all plant diversity used or having the potential to be used in agriculture for food, feed and fibre. The standards recognize that the application of the Cartagena Protocol on Biosafety to the CBD results in safeguards to ensure that the handling, transport and use of living modified organisms (LMOs) resulting from modern biotechnology do not adversely affect biological diversity and/or pose a risk to human health.

131. ESS 3 covers any activity that requires the use in projects, development or transfer of seeds and planting material, even if these propagules have not been produced in the course of a specific action by conventional or modern biotechnologies.

132. FAO's actions should not destroy genetic diversity. As such, FAO will avoid or minimise:

- Introducing new crop varieties on a large scale that can "crowd out" other crops and varieties, with the direct consequence of reducing the diversity of crops and varieties grown by farmers – with nutritional implications – and ultimately disrupting the complex interactions between host plants and their associated pests and diseases, possibly also affecting the resilience of the system.
- Introduction of varieties of crops resulting from genetic modification, which can lead to the transfer of transformation events to other varieties or closely related species.

133. As some of the project work is related to improving the quality of seeds, which may involve the cultivation of new varieties, national seed import requirements and FAO's general requirements for working with hybrid seeds should be applied.

134. The effectiveness of pesticides is even lower than that of fertilizers: according to some estimates, less than 0.1% of pesticides applied to crops actually reach the suspected pests. The remaining pesticides accumulate in the soil, from where they can enter groundwater or surface water and become toxic to microorganisms, aquatic animals and humans. Pesticides accumulated in the soil can harm arthropods, earthworms, fungi, bacteria, protozoa and other organisms that contribute to the functioning and structure of the soil. Exposure to pesticides on birds can lead to impaired reproductive function and, at sufficiently high doses, even to their death. Livestock can also be affected by pesticide exposure.

135. Once pesticides enter the ecosystem, they can persist for a long time. Moreover, pesticides that enter the food chain can undergo biological accumulation, in which the accumulated concentrations in the tissues of organisms are many times higher than in the environment

3.7. World Bank Environmental and Social Standards and Their Requirements

136. The World Bank is committed to supporting Borrowers in designing and implementing projects

that are environmentally and socially sustainable, and to enhancing the capacity of Borrowers' environmental and social mechanisms to assess and manage environmental and social risks and impacts of projects. To this end, the Bank has identified specific environmental and social standards (ESSs) that are designed to prevent, minimize, reduce, or mitigate adverse environmental and social risks and impacts of projects. The ESS define the essential protection standards, procedural requirements, and individual rights of affected communities that borrowers must comply with, and the implementation of which the World Bank supports and works with borrowers to ensure that they are met during project implementation. The standards carry numerous environmental and social requirements.

137. The Environmental and Social Matrix (MOEW) enables the World Bank and borrowers to better manage the environmental and social risks of projects and improve development outcomes. It was launched on October 1, 2018.[31] The MoEHR offers a broad and systematic coverage of environmental and social risks. It has made important advances in the areas of transparency, non-discrimination, public participation, and accountability, including expanding the role of grievance mechanisms. It brings the World Bank's environmental and social protection more in line with that of other development institutions. The MoEHR consists of the following:

- The World Bank's Sustainable Development Vision
- The World Bank's Environmental and Social Policy on Investment Financing (FIP), which outlines the requirements applicable to the Bank
- 10 Environmental and Social Standards (ESS) that set out the requirements applicable to Borrowers
- Bank Directive: Environmental and Social Directive on Financing Investment Projects
- The Bank's Directive on Addressing Risks and Impacts on Disadvantaged or Vulnerable Individuals or Groups

138. The Environmental and Social Standards (ESS) of the World Bank include the following:

- ESS 1: Environmental and Social Standard: Assessment and Management of Environmental and Social Risks and Impacts;
- ESS 2: Personnel and working conditions;
- ESA 3: Efficient use of resources, pollution management and prevention;
- ESS 4: Community Health and Safety;
- ESA 5: Land Alienation, Land-Use Restriction and Forced Resettlement;
- ESA 6: Conservation of biological diversity and sustainable management of living natural resources;
- ESA 7: Indigenous Peoples/Historically Disadvantaged Traditional Local Communities in Sub-Saharan Africa;
- ESS 8: Cultural Heritage;
- ESA 9: Financial intermediaries;
- ESS 10: Stakeholder Engagement and Disclosure.

139. Within the framework of this REBR, 7 ESAs have been identified as relevant to the proposed project activities, namely ESS 1, ESS 2, ESS 3, ESS 4, ESS 5, ESS 6 and ESS 10.

140. The requirements of these ESAs and their impacts for the current project are presented in Table 7 below

[31] *https://www.worldbank.org/en/projects-operations/environmental-and-social-framework*

Table7: Environmental and Social Standards of the World Bank related to the Project

ENVIRONMENTAL AND SOCIAL STANDARDS (ESS)	RELEVANCE LEVEL	BASIC REQUIREMENTS	ADDRESSING ISSUES RELATED TO ENVIRONMENTAL AND SOCIAL STANDARDS
ESS 1. Assessment and Management of Environmental and Social Risks and Impacts	Relevant	ESA 1 sets out the Borrower's responsibilities to assess, manage and monitor the environmental and social risks and impacts associated with each phase of the project, with the support of the World Bank through investment project financing, with the aim of achieving environmental and social outcomes that are in line with the Environmental and Social Standards (ESS). In accordance with the requirements of this International Standard, ESA should be conducted on the basis of up-to-date information, including a description and delineation of the project and any related aspects, as well as environmental and social baseline data at an appropriate level of detail sufficient to characterize and identify risks and impacts, and measures to mitigate them. The assessment identifies potential environmental and social risks and impacts of the project, with particular emphasis on those that may disproportionately affect disadvantaged and/or vulnerable social groups; considers project alternatives; identifies ways to improve the selection, location, planning, design and implementation of the project in order to apply a hierarchy of measures to mitigate adverse environmental and social impacts and to identify opportunities to enhance the positive impacts of the project.	This PERVP prepared by the project shows that the project as a whole provides for a number of positive social and environmental impacts. It will support technical assistance and capacity building activities to improve seed quality, which will reduce environmental and health risks in agricultural production in the country, while at the same time creating new economic opportunities. The project may create some adverse environmental impacts (such as waste, noise, dust, air pollution, health hazards and occupational health and safety issues) associated with the potential use of pesticides, the construction and/or rehabilitation of public buildings and laboratories, seed farms and factories. Other environmental impacts may be related to the operation of ALCs (potential organic waste) or investments in infrastructure for extension activities. Impacts from pesticide use and locust control can be mitigated with ASP, which would include locust prevention and control; cotton production; horticulture; seed centres; vector control in ALCs and agricultural warehouses, etc.). The impacts of construction can be mitigated effortlessly by applying good building practices and complying with regulations. Environmental and social plans. As it is not possible to identify all the activities and sub-projects to be financed prior to the evaluation of the project, the borrower has prepared an Environmental and Social Manaement Framework (ESMF) in accordance with ESS 1, which defines the rules and procedures for the Environmental and Social Impact Assessment (ESA) of activities and sub-projects, as well as for the preparation of the ESMF.
ESS 2. Personnel and working conditions	Relevant	ESA 2 takes into account the importance of job creation and income generation in the pursuit of poverty reduction and inclusive economic growth. Borrowers can foster strong worker-management relationships and enhance the development benefits of the project by treating project staff fairly and providing safe and healthy working conditions.	In accordance with ESA 2, the Labour Relations Management Procedures (ERPs) have been prepared to describe the main labour requirements and risks associated with the implementation of the project, and to assist the MOA in identifying the resources needed to address labour issues. The project will cover the following categories of personnel: direct and salaried workers.

		ESA 2 applies to project workers, including full-time and part-time staff, temporary, seasonal workers, and migrants. Subject to these requirements, the Borrower shall develop and implement written human resources management procedures applicable to the project. These procedures shall govern the management of the project personnel in accordance with the requirements of national legislation and this e-Session. The procedures shall specify how this e-Case will apply to the various categories of project personnel, including direct workers, and how the Borrower will require third parties to manage its personnel in accordance with the e-Ss 2.	The TEP provides an overview of the use of labor in the project, the legislative framework governing employment in the Republic of Tajikistan and a gap analysis compared to the World Bank's ESS 2, highlights the main potential labor risks and mitigation measures, implementation mechanisms, roles and responsibilities, and procedures. The establishment of a mechanism for handling workers' grievances and the requirements for the management of contractors are presented in the last two chapters. The document also contains the requirements for health and safety during the coronavirus infection 2019 and a reference to the EPR, which is applicable to this project. The link can be found here: *https://www.ifc.org/wps/wcm/connect /topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/policies-standards/ehs-guidelines*
ESS 3. Resource Efficiency, Pollution Management and Prevention	Relevant	ESA 3 takes into account that economic activities and urbanization often result in air, water and land pollution and consume limited resources that can threaten people, ecosystem services and the environment at the local, regional and global levels. Current and projected concentrations of greenhouse gases (GHGs) in the atmosphere threaten the well-being of present and future generations. At the same time, more efficient and rational use of resources, prevention of pollution and GHG emissions, and mitigation technologies and practices have become more accessible.	The ESMF consists of sections on the prevention and management of environmental pollution, with a focus on issues that may arise during construction and rehabilitation activities. Assessment of the risks and impacts associated with construction works, such as raw materials, water use, air pollution, hazardous materials, organic and hazardous wastes, as well as proposed measures to reduce them, within the framework of the relevant requirements of ESA 3, are included in the SEEP as appropriate. In case of inappropriate use of pesticides in agricultural production, the project can lead not only to environmental pollution, but also to harmful effects on the health of farmers. With this in mind, Component 3 of the project provides recommendations on the safety of locust control in the implementation of pest control activities, the issues integrated into the ERR, as well as all other activities related to these issues that have been supported by the project. Risk and impact assessment and proposed mitigation measures related to the relevant requirements of ESA 3, including integrated pest management; water use; soil and air pollution; management of hazardous materials; procedures for the management and disposal of materials and hazardous wastes will be included in the scope of specific ASP and ESA/ESMF, as appropriate.

ESA 4: Community Health and Safety	Relevant	ESA 4 provides that project activities, equipment and infrastructure may increase the exposure of the population to risks and impacts. In addition, communities that are already exposed to the impacts of climate change may also experience acceleration or amplification of impacts during the implementation of the project. ESS 4 draws attention to the risks and impacts on health, safety and health in the communities affected by the project and the respective responsibilities of Borrowers to prevent or minimize such risks and impacts, paying particular attention to populations that may be vulnerable due to their special circumstances.	In order to address environmental risks and impacts that may affect public health and safety, the EHRP includes an assessment of work-related health risks; safety of work and roads; excessive noise and dust, safety awareness at the site and access restrictions; and the influx of labour. Contractors developed and enforced codes of conduct, including requirements for respectful behavior and interaction with the local population and at the sites, prohibition of participation in illegal activities, sexual exploitation and assault/sexual harassment (BOT/DM), forced or child labor. Additional activities to prevent and mitigate the risks of BOT/DM, coronavirus infection 2019, which will be carried out by the implementing agency, include the establishment of a gender-based violence (NGV) grievance mechanism, training and awareness-raising of staff, contractors and the local population (adjacent construction site sites) about the risks of BOT/BOT, about the existing grievance mechanism taking into account the CAP, the support services available, and the Codes of Conduct to be followed by implementing agency staff and contractors. The 2019 Coronavirus Infection Management Plan should be developed as part of the WA Management Plan and adhered to by Contractors. The Stakeholder Engagement Plan (SEP) provides for an awareness campaign prior to the start of project work, including community outreach prior to pesticide application, planning of other non-project activities that may be affected by the mass use of pesticides (e.g. bee breeding, poultry farming, etc.). Outreach activities will be carried out taking into account precautions during the coronavirus infection 2019. Increased exposure of farmers and their families to hazardous agrochemicals can also be seen as a significant risk to public health and safety. Farmers' exposure mainly occurs during the preparation and application of pesticide solutions, as well as during the cleaning of spraying equipment. Farmers or their family members who do manual labour on pesticide-treated areas may also be severely exposed as a result of direct spraying, transfer from neighbouring fields, or contact with pesticide residues on crops or soil. These issues will be addressed in the Pest Management Plans that will be prepared during the implementation of the project. In addition, in accordance with the requirements of this ERR, the

			site-specific WLMP will include the necessary measures to ensure effective waste management and the prevention of the unintentional spread of animal diseases, as well as training requirements in this regard. In addition, locust control activities will include clear safety requirements for pesticide-related pest management activities. Also, in this regard, a template for a Pest Management Plan will be included in the WRP and subsequently used by farmers and/or agricultural research institutions where the project supports these activities.
ESA 5: Land Alienation, Land-Use Restriction and Forced Resettlement	Relevant	ESA 5 takes into account that project-related land acquisition and land-use restrictions can have adverse impacts on communities and people. Project-related land expropriation or land-use restrictions can result in physical displacement (relocation, loss of housing or home), economic displacement (loss of land, assets or access to assets, resulting in loss of income or other livelihoods), or both. The term "involuntary resettlement" refers to these impacts. Experience and research show that physical and economic displacement, if not mitigated, can lead to serious economic, social and environmental risks: production systems can be destroyed; people are at risk of impoverishment if they lose their productive resources or other sources of income; people can be displaced to an environment where their productive skills are less applicable and competition for resources is higher; social institutions and social networks can be weakened; kinship groups can be dispersed; cultural identity, traditional authority and the potential for mutual assistance can be reduced or lost. Where involuntary displacement is unavoidable, it will be minimized and appropriate measures to mitigate the negative impact on displaced people (as well as on communities hosting displaced populations) will be carefully planned and implemented.	New construction will inevitably require "land", but it will be limited to 2-3 sites. While the project expects the Government to provide land, due diligence is needed to prevent physical and/or economic displacement. The MoA will prepare a Resettlement Policy Framework (RAP) to guide activities in this regard. The AOA will define procedures for: (i) land acquisition (once all technical alternatives have been exhausted), (ii) addressing any residual impacts from land acquisition (i.e., identifying, valuing, and compensating people who have suffered economic loss or loss of private property), (iii) monitoring and verifying compliance with policies and procedures, and (iv) grievance mechanisms. Where resettlement-related impacts have been identified, site-specific RAPs will be prepared by the PMU/MA in accordance with the CAP.
ESA 6: Conservation of biological diversity and sustainable management of living natural resources	Relevant	ESA 6 recognizes that the protection and conservation of biodiversity and the sustainable management of living natural resources are fundamental to sustainable development. Therefore, impacts on biodiversity can often have a negative impact on the provision of ecosystem services. ESA 6 takes into account the importance of conserving the essential ecological functions of habitats, including forests, and the biodiversity they support. In any habitat, a complex of living organisms is maintained,	This ESA is relevant. In general, most of the activities envisaged by the project are of a small scale and will be carried out within human settlements – in the event of the rehabilitation of agricultural research laboratories, and if no impact on natural habitats is expected. At the same time, since Sub-Component 1.3 aims at the acquisition, production and propagation of seeds, seedlings and other planting materials, it may pose some risks and impacts related to biodiversity through the introduction of new varieties. To minimize these risks, the project's EHR provides

		and it varies in species diversity, abundance and importance. This ESS also examines the sustainable management of the primary production and harvesting of living natural resources. The purpose of this standard is to conserve natural habitats and their biodiversity; to prevent significant transformation or degradation of critical natural habitats, and to ensure the sustainability of the services and products that are provided to human society.	requirements for their elimination in accordance with the guidance of the Food and Agriculture Organization of the United Nations (FAO). As stated in the EDR document, FAO has developed Guidelines on Environment and Social Issues (2015) with 9 Environmental and Social Standards (ESSs) that establish specific requirements related to various social and environmental issues. FAO's ESA 3 defines plant genetic resources for food and agriculture (PGRFA) as the total variety of plants used or having the potential to be used in agriculture for food, feed and fibre. It is also important to consider how pesticides and other agrochemicals may affect local flora and fauna and to propose appropriate preventive measures, and in some cases it is advisable to prohibit them (if the sites where pesticides/agrochemicals are to be used are located near critical habitats, IBAs protected areas, Ramsar sites, wetlands, water sources, etc.).
ESS 8: Cultural Heritage	Non-compliant	ESS 8 takes into account that cultural heritage provides continuity in tangible and intangible forms between the past, present and future. It sets out measures aimed at protecting cultural heritage throughout the life of the project.	ESA 8 is not relevant to this issue, but as a precautionary measure, the prospecting procedure is included in the EAPS and will be part of the mitigation measures to be included in the PIAR for each specific facility.
ESS 10: Stakeholder Engagement and Disclosure	Relevant	ESA 10 notes the importance of open and transparent engagement between the Borrower and project stakeholders as an essential element of good international practice. Effective stakeholder engagement can enhance the environmental and social sustainability of projects, improve project acceptance, and contribute significantly to the successful design and implementation of the project. The Client will engage with stakeholders throughout the life of the project, starting such engagement as early as possible in the project development process and in a time frame that allows for meaningful stakeholder consultations on project development. The nature, scope, and frequency of stakeholder engagement will be proportional to the nature and scope of the project, as well as its potential risks and impacts. In consultation with the World Bank, the Borrower will develop and implement a Stakeholder Engagement Plan (SEP) that is proportionate to the nature and scope of the project, its potential risks and impacts.	The parties affected by the project are farmers, including dehkan farms and homestead owners, on whose farms the activities can be carried out, as well as the general population in the settlements where the project activities will be carried out. Farmers' organizations and cooperatives should also be considered as parties affected by the project, as the project may directly affect their activities. Other stakeholders are local authorities, agribusiness representatives, as well as central-level authorities, including but not limited to: Ministry of Agriculture; Dehkan Farms and Household Plots; State Phytosanitary and Plant Quarantine Service; Agricultural Inspectorate; Agricultural Research Institutes; Ministry of Industry and New Technologies. As part of the preparation of the SEP, mapping of other stakeholders was carried out, such as other government departments, scientific institutions, NGOs, specific Farmers' Associations. A SEP has been developed that includes a complete stakeholder mapping, describes activities and timelines of engagement with different stakeholder groups throughout the project lifecycle, defines the roles and responsibilities, human resources and budget required to implement the SEP activities. The SEP was prepared

			taking into account the input of stakeholders with the application of the 2019 coronavirus precautions during the consultations.

IV. NATIONAL INSTITUTIONAL STRUCTURE

4.1. National institutions involved in the environmental sector

141. In order to create an effective system for managing strategic planning and sustainable socio-economic development of the country and in accordance with Article 69 of the Constitution, the URT has established a system of environmental institutional management, which includes various state institutions. At present, the system of environmental institutions and management in the Republic of Tajikistan includes the following institutions:

- Parliament,
- Executive Office President,
- Committee for Environmental Protection (CEP) under the Government of Tajikistan,
- Agency on Statistics under the President of the Republic of Tajikistan,
- Ministry of Agriculture,
- Ministry of Energy and Water Resources,
- Ministry of Health and Social Protection of the Population,
- Ministry of Economic Development and Trade,
- Ministry of Finance,
- Land Reclamation and Irrigation Agency,
- Tajikstandart Agency,
- Forestry Agency,
- Agency for Hydrometeorology of the Committee for Environmental Protection,
- The Tajik Academy of Sciences and its research institutes,
- The Tajik Academy of Agricultural Sciences and its research institutes, and
- Other small institutions.

142. The following is a brief description of the key institutions and their role in public administration:

143. ***The Agency for Environmental Protection (EPA)*** of Tajikistan (namely the Committee for Nature Protection of the Tajik Soviet Socialist Republic) was first established in August 1989. Its powers included coordinating the activities of state bodies for environmental protection and control over the use of natural resources, protection of land, subsoil, forests, water and other resources. In 1994, the legal status of the EPA was upgraded, and it was reorganized into the Ministry of Nature Protection of the Republic of Tajikistan with the same powers. However, 10 years later, due to the restructuring of the Government of the Republic of Tajikistan, the Ministry again became the State Committee for Environmental Protection and Forestry (SCEPF) in 2004. In 2006, as a result of further restructuring of the Government, the EPA was merged with the Ministry of Agriculture, which became the Ministry of Agriculture and Environmental Protection. The powers of the EPA under the new ministry remained the same. In 2008, the EPA became the Committee for Environmental Protection (CEP) under the Government of the Republic of Tajikistan

144. The CEP coordinates all activities related to environmental protection within the Government of the Republic of Tajikistan and supervises the use of natural resources, the protection of land, subsoil, forests, water and other resources. The decisions of the CEP are considered binding on all legal entities and individuals. Currently, the CEP has 400 employees, of which about 50 work in the central office in Dushanbe.

145. ***The Parliament of the Republic of Tajikistan*** plays a key role in determining policies, strategies and regulations for sectors that may be affected by and affected by environmental factors. It consists of two chambers – (*Majlisi Namoyandagon*), the lower house, and (*Majlisi Milli*), the upper house.

67. Several committees are of particular importance:

- the Environmental Committee, which oversees legislation related to the environment;
- the Education Committee, which oversees the implementation of the Environmental Education Act and the laws relating to vocational secondary education and vocational training;
- Sectoral committees covering environmentally sensitive sectors, such as the Committee on Agriculture, which will be important for integrating environmental and social risk management issues into policies in agriculture, land use, water resources and other areas. The structure of the parliament includes an information library for members of the lower house, which contains more than 16,500 publications. Of the 63 parliamentarians, 6 are members of the Environmental Committee, who work directly on legislation related to the environment.

146. ***The Ministry of Agriculture (MAA)*** develops and coordinates agricultural and regional policies, strategic plans, state and sectoral programs in the agricultural sector. In addition, the Ministry oversees a significant segment of the economy vulnerable to climate change, land degradation, POPs, biodiversity and other areas. The Ministry employs 3583 employees, 104 of them in the central office in Dushanbe.

147. The Ministry of Agriculture also oversees the activities of the Tajik Academy of Agricultural Sciences, which serves as the scientific and coordination center for agricultural science in the Republic of Tajikistan. The Ministry is also affiliated with the Tajik Agrarian University, which consists of nine faculties. Both provide opportunities for applied research and knowledge transfer. The activities of the Academy of Agricultural Sciences are directly related to various environmental issues.

148. ***The Ministry of Economic Development and Trade (MEDT)*** is a state body responsible for monitoring the system of state economic planning and forecasting, and promoting the effective implementation of priorities for the socio-economic development of Tajikistan. One of the main tasks of this Ministry is to develop and implement programs and strategies for the economic development of the Republic of Tajikistan in order to reduce poverty and stabilize socio-economic conditions. According to government decrees, the Ministry of Economy should be included in all working groups that develop sustainable strategies, plans and budgets. Representatives of the Ministry chair the drafting group for the preparation of the National Development Strategy and the Poverty Reduction Strategy. The Ministry also monitors the implementation of these two strategies.

149. ***The Ministry of Finance***, in addition to economic and financial functions, is responsible for reviewing and approving the budgets of public institutions, including those related to the environment and climate change.

150. ***The Ministry of Industry and New Technologies*** deals with environmental issues, despite its role as the authorized national body for Clean Development Mechanism projects implemented under the Kyoto Protocol of the UNFCCC in the Republic of Tajikistan. The Ministry is responsible for coordinating the flow of data, monitoring and analysis within the framework of the National Development Strategy process.

151. ***The Ministry of Energy and Water Resources*** is responsible for the implementation of water policy in the country. It participates in the development of almost all new regulations in the country, including the discussion of policy action plans aimed at protecting the environment. The Ministry participates in the development of a national water strategy based on the Millennium Development Goals. The national water strategy includes the development of energy sources without negative impact on the environment. The activities of the Ministry are interrelated with the construction of hydroelectric power plants and their reservoirs in areas associated with the trade-off between development and environmental issues, with the strategic goal of: a) ensuring the necessary flow regulation in case of fluctuations and changes in water

volume; b) reducing the negative impact of sludge on existing reservoirs; and c) reducing the potential negative impact of the construction of new reservoirs.

152. According to the Law on Health, ***the Ministry of Health and Social Protection*** of the Population provides sanitary and epidemiological services to the population. It carries out state sanitary and epidemiological surveillance, carries out measures for environmental safety, environmental protection and sanitation, as well as develops national sectoral sanitary norms, rules and hygienic standards. The Ministry has a subsidiary research institute – the Institute of Epidemiology and Sanitation, and also manages about 73 stations of sanitary and epidemiological surveillance.

153. The Ministry of Education deals with environmental issues by virtue of its powers under the Law on Environmental Education, which requires it to develop and implement environmental education projects. The Ministry supervises schools, which can serve as effective starting points for raising awareness of climate change issues.

154. ***The Ministry of*** Transport is responsible for the implementation of transport policy. The impact of transport infrastructure as well as traffic on the environment. At the same time, the impact of climate change on the road infrastructure is considered, taking into account the erosion of roads and bridges by mudflows and avalanches.

155. ***The State Committee for Land Management and Geodesy*** was established in 2011 and is responsible for developing policies and reforms in the field of land use. It is one of the main agencies responsible for the implementation of the Land Code.

- Monitoring of land resources;
- State control over the effective use and protection of land;
- Conducting a land inventory;
- State registration of land use rights;
- Promotion of sustainable land use;
- Determination of land tax rates and payment for the use of land for violation of land legislation;
- Participation in decision-making on the restoration of degraded land; and
- Preparation of documents for the allocation of land between different executive authorities

156. In addition, the Committee oversees two institutes that conduct applied research related to land-use change, including land-use inventory and mapping. The Committee has a central office in Dushanbe with approximately 70 employees and district-level offices with nearly 200 employees.

157. ***The Committee for Emergency Situations and Civil Defence*** is a government body tasked with disaster risk reduction, response and coverage of climate-related disasters. The Committee reviews and analyses disaster risk assessment in the light of climate change, and has a department dealing with evacuation and resettlement. In terms of facilities, the Committee has a central office in Dushanbe and representative offices in all regions and districts of the country. The Committee has its own training facilities and provides on-the-job training for its staff. It also has its own chemical and radiometric laboratory. The Committee is involved in several initiatives to share best practices within the CIS, and has previously engaged international experts on a long-term basis through technical assistance projects with good results.

158. ***The Agency for Land Reclamation and Irrigation (AMRI)*** is responsible for the sustainable operation of the national irrigation system and land reclamation. It also monitors the use of water resources, is responsible for the distribution of water to farmers for agricultural purposes, and provides data on water

consumption to the Committee for Environmental Protection. Finally, the Agency is responsible for the operation and maintenance of irrigation and rural water supply infrastructure.

159. *The Academy of Sciences* has 15 research institutes, including the Institute of Water Problems, Hydropower and Ecology. The Institute is able to develop long-term action plans in various sectors of the economy, and the Academy's researchers are involved in the development of national action plans for biodiversity conservation and climate change mitigation.

160. 4.2 National institutions involved in social risk management

161. The identified public institutions that will be involved in the implementation of the project are presented in Table 8 below. They are divided into categories according to which administrative level(s) the institutions represent: national, regional and district public authorities.

Table 8: Relevant government agencies

Institution category	**National level**	**Scope**	**Area**	**Role and involvement**
Government Administration	Cabinet of Ministers	Office of the Chairman of the Region	District and city administrations, including the chairman's office	Approvals and Strategic Planning Land management issues and monitoring of child/forced labour
Sectoral ministries and departments	Ministry of Agriculture (USDA)	Regional Department of Agriculture	District Department of Agriculture	Implementation agency responsible for project operations
	Labor Inspectorate under the Ministry of Labor, Migration and Employment of Population	Regional Administration	District Department	Monitors compliance with the norms and rules of labor protection, working conditions and labor rights
	Committee for Architecture and Construction (CAS)	Chief Architect of the Region	Chief Architect of the District	Monitors compliance with social infrastructure construction standards and local master plans
	State Committee for Land Management and Geodesy	Regional Department of Land Management and Geodesy	District Committee on Land Management and Geodesy	Issues of Issuance of Land Use Certificates
	Committee on Women and Family Affairs	Regional Department for Women and Family Affairs	District Women's Office	Support for women's engagement and prevention of GBV, as well as support for the implementation of the gender action plan

Institution category	National level	Scope	Area	Role and involvement
Ministries and departments	Ministry of Health and Social Protection of the Population (MOHSPP)	Regional Health Department	District Health Department; Primary Health Care Institutions	Coordination and distribution of micronutrients and RUTFs; training of medical personnel; monitoring and reporting of nutrition; warehousing and storage at the national level
International organizations (implementing partners)	UNICEF	Regional Offices	District Offices	Procurement and delivery of micronutrients, vitamin supplements and RUTF; technical support
Sectoral ministries and departments	Agency for Land Reclamation and Irrigation under the Government of the Republic of Tajikistan	Regional Department of Land Reclamation and Irrigation	District Department of Land Reclamation and Irrigation	Support for the rehabilitation of irrigation systems; technical expertise; development of an implementation project
Government Administration	Committee on Food Security under the Government of the Republic of Tajikistan	—	—	FSCPP coordination; NRFP coordination; food security coordination
Sectoral ministries and departments	Ministry of Industry and New Technologies	Regional Administration	District Office	Participation in the Government Committee for the Supervision of NRFP; standardization of fortified products
Sectoral ministries and departments	Agency "Tajikstandard"	Regional Administration	District Office	Participation in the supervision of NRFP; quality control of fortified food products

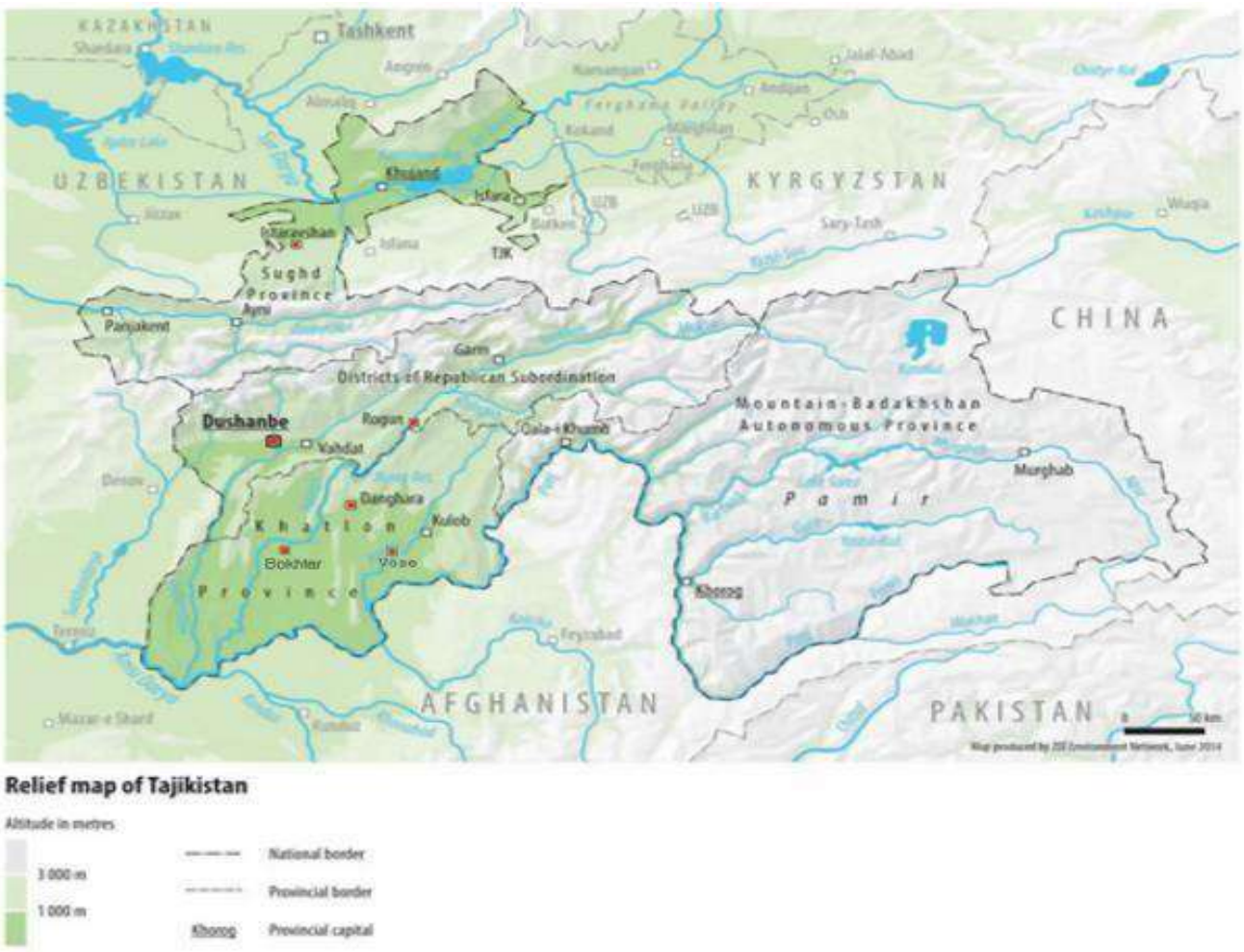
V. BACKGROUND

5.1. Material resources

162. **Topography and geology.** The Republic of Tajikistan has a mountainous terrain that makes up 93% of its territory. Its rugged terrain varies from a few hundred meters to 7000 meters above sea level. China is bordered by the Eastern Pamir Plateau, and Uzbekistan is bordered by the Fergana Basin in

northern Kyrgyzstan. The main elements of geography of the Republic of Tajikistan are: the Kuramin Range and the Mogoltau Mountains, the Fergana Depression, the Hissar-Alai Mountains (Southern Tien Shan), the depressed region in southwestern Tajikistan (Tajik Depression) and the Pamirs. Altitude ranges from 300 to 7495 meters above sea level (Figure 1). The modern relief of the Republic of Tajikistan is the result of the activity of high-mountain tectonic movements of the earth's surface and the process of denudation. Most of the plain areas of the country are wide expanses of river valleys or vast depressions between mountains.

Illustration1: Relief map of the Republic of Tajikistan



163. **Seismicity.** The Republic of Tajikistan is located near the border between the Eurasian and Indian plates, in a region where relatively strong earthquakes occur. It is a country of intense tectonic movements and high seismicity. According to the International Institute of Seismology and Earthquake Engineering, since 1900 there have been seven earthquakes with a magnitude of more than 6.5 with the epicenter in the Republic of Tajikistan (Table 15). In the south of the Republic of Tajikistan there are many earthquakes near the border with Afghanistan. Earthquakes depend on many factors: geotechnical conditions, soil character, the presence of groundwater, relief, etc. The main seismic zones in the Republic of Tajikistan have 7, 8 and 9 degrees of seismic intensity on the MSK-64 scale (Table 16). In each of these zones,

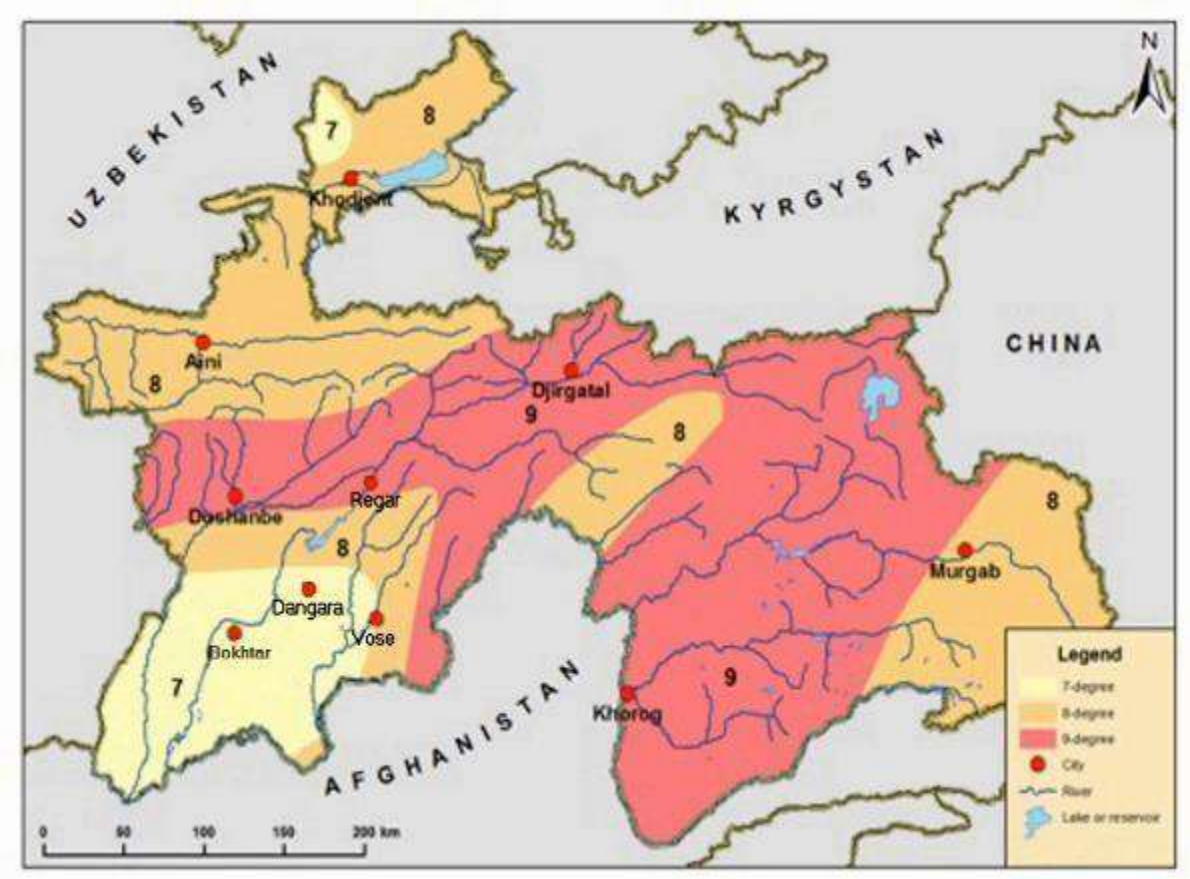
earthquakes of these levels are possible. Most of the southern districts are located in seismic zones 7 or 8. The northern districts are in zone 8, with the exception of the Matcha district, which is located in zone 7. Dushanbe, the districts of republican subordination and the Gorno-Badakhshan Autonomous Region (GBAO) are in zone 9. A seismic map of the Republic of Tajikistan showing the locations of subprojects is shown in Figure 2.

Table 5: Major earthquakes in Tajikistan in 1907-2015

Date	Location	Latitude	Longitude	Casualties	Wounded	Magnitude	Comments
2015-12-07	Gorno-Badakhshan Autonomous Region	38.26	72.77	2		7.2	Many houses were destroyed
2012-05-13	Districts of republican subordination	38.61	70.35	1		5.7	Many buildings were destroyed/livestock were killed
2011-07-19	Fergana Valley	40.05	71.44	14	86	6.2	
2006-07-29	Khatlon region	37.26	68.83	3	19	5.6	
1989-01-22	Hissar	38.47	68.69	274		5.3	
1985-10-13	Kayrakkum (Guliston)	40.3	69.82	29	80	5.9	Heavy damage/many houses were destroyed
1984-10-26	Jirgital *Rasht Valley	39.16	71.33			6.1	Moderate damage/several houses were destroyed
1949-07-10	Garm (Rasht)	39.2	70.8	7200		7.5	
1930-09-22	Dushanbe	38.4	68.5	175		6.3	

Source: National Center for Geophysical Data (NCDM).

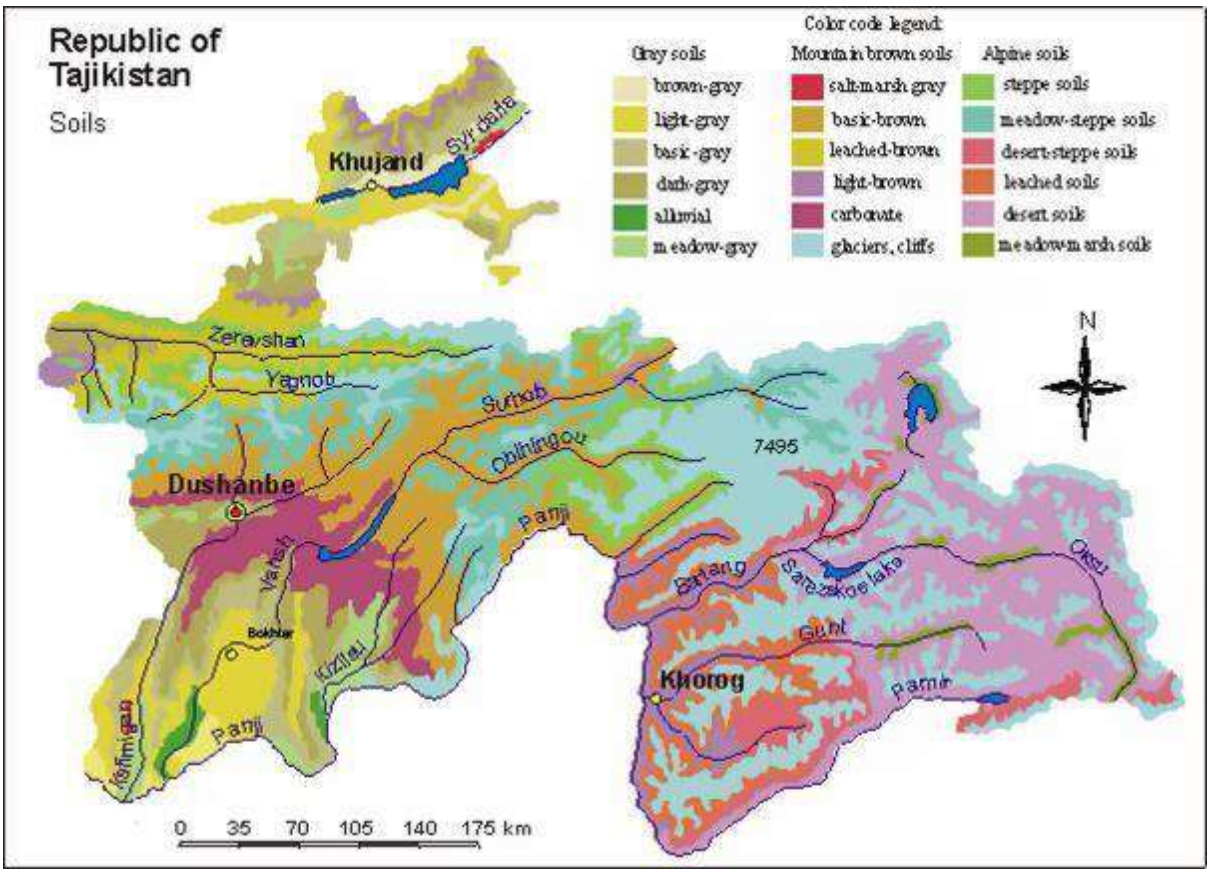
Illustration2: Seismic map of the Republic of Tajikistan



164. **Soils.** As a typical highland country, the Republic of Tajikistan has vertical soil cover variability. Three main vertical soil distribution belts can be distinguished in the country: (i) gray soils of valleys and unoccupied fields; (ii) brown soils of the middle belt of mountains; and (iii) soils of highlands. There is a marked gradient from the wetter northern part of the study area to the very dry southern part. The soils of the study area are highly productive, with most of the area used for agriculture. However, in the dry southern part of the subproject area, agricultural use is only possible with soil irrigation. Soil erosion is a major environmental problem throughout the country due to seismic activity, steep slopes, soil fragility, and human activities such as improper livestock management, removal of protective vegetation cover, and poor water management practices.

165. Soil characteristics are usually loes, loamy sands and sandy loams, sometimes rocky gravel of Upper Quaternary age, classically formed by wind deposition in arid or semi-arid areas. Soils are brown-gray, light gray. The humus layer of loess and loamy sands is sufficiently fertile and agriculture is possible. In order for these soils to be used in agriculture, they require irrigation and mineral fertilizer application (Figure 3).

Illustration3: Soil Map of the Republic of Tajikistan



166. **Air quality.** The problem of air quality is one of the main environmental problems of industrial and urbanized areas of the Republic of Tajikistan. The main stationary sources of air pollution in the Republic of Tajikistan are mining, metallurgical, chemical industries, construction, mechanical processing, light industry, production of heat and electricity, and agriculture.

167. In 2005, the share of vehicle emissions was 170,300 tons (t) or 83% of the total amount of pollutants emitted into the atmosphere. Vehicles are the main source of substances accumulating in the surface layer of the atmosphere. Fuel combustion products enter the atmosphere and form smog. Old vehicles with increased emissions of toxic gases make up 30-40% of the total number of vehicles for road transport. Exhaust gases include about 200 chemical components and hazardous substances, such as carbon monoxide, nitrogen oxide, hydrocarbons, lead, etc.

168. Typically, a car with an internal combustion engine using 1000 liters (l) of fuel emits about 200 kilograms (kg) of carbon monoxide, 20 kg of nitrogen oxides, 1 kg of ash and particulate matter, and 200-400 g of lead components. In urban environments, emissions from road transport potentially increase due to frequent changes in operating patterns and traffic jams. Illegal burning of leaves, street garbage, and household waste contributes to outdoor air pollution in cities. This is dangerous because foliage absorbs harmful elements and heavy metals such as lead, and household waste contains rubber, plastic, and other organic matter that, when burned, emit 40 harmful and toxic components. The release of harmful substances into the atmosphere potentially affects many natural and public sites, regardless of the source of pollution and distance. Air pollution can cause damage to cultural values, vulnerable ecosystems, agricultural land, and people.

169. **Climate.** In the Republic of Tajikistan, there are three main climatic zones: continental, subtropical and semi-arid, with some desert areas. However, the climate changes dramatically depending on the altitude above sea level. The country's location in the center of Eurasia, remoteness from oceans and seas, and the proximity of deserts predetermine its climate, which can be characterized as continental, with significant seasonal and daily fluctuations in temperature and humidity. The climate of the central and southwestern regions of Tajikistan is characterized by rather hot summers and mild winters. The cold period lasts 90-120 days, and the warm period lasts 235-275 days. 75-85% of the annual precipitation falls from December to May. The country's very complex topography structure, with huge elevation differences, creates unique local climates with large temperature differences, as shown in Figures 35-37. The country's capital, Dushanbe, and the Khatlon region belong to the continental climate, where from June to September the plains are hot and dry, with a maximum temperature exceeding 35°C. On the other hand, snow is observed from December to February with a minimum temperature below 0°C.

170. **Wind. The** Republic of Tajikistan is characterized by a small amount of strong winds from large-scale low winds such as typhoons, although there are relatively many seasonal winds with dust. Wind speeds are similar to those in South Asia – about 40 m/s. Wind direction and average wind speed in the subproject area are shown in Table 9.

Table9: Wind direction at cardinal points and average wind speed (m/s)

Location/wind direction	S	SV	In	SE	Yu	SW	Z	NW
Dushanbe	1.9	1.5	1.9	1.8	1.6	1.6	1.9	1.7
Khujand	2.2	4.6	4.5	2.2	3.1	5.7	3.9	2.1
Bokhtar	1.6	1.4	1.6	2.2	2.0	1.6	1.5	1.6

Source: Building Climatology (MKC 23-01-2007, Table 10).

Illustration4: Climatological Map of the Republic of Tajikistan

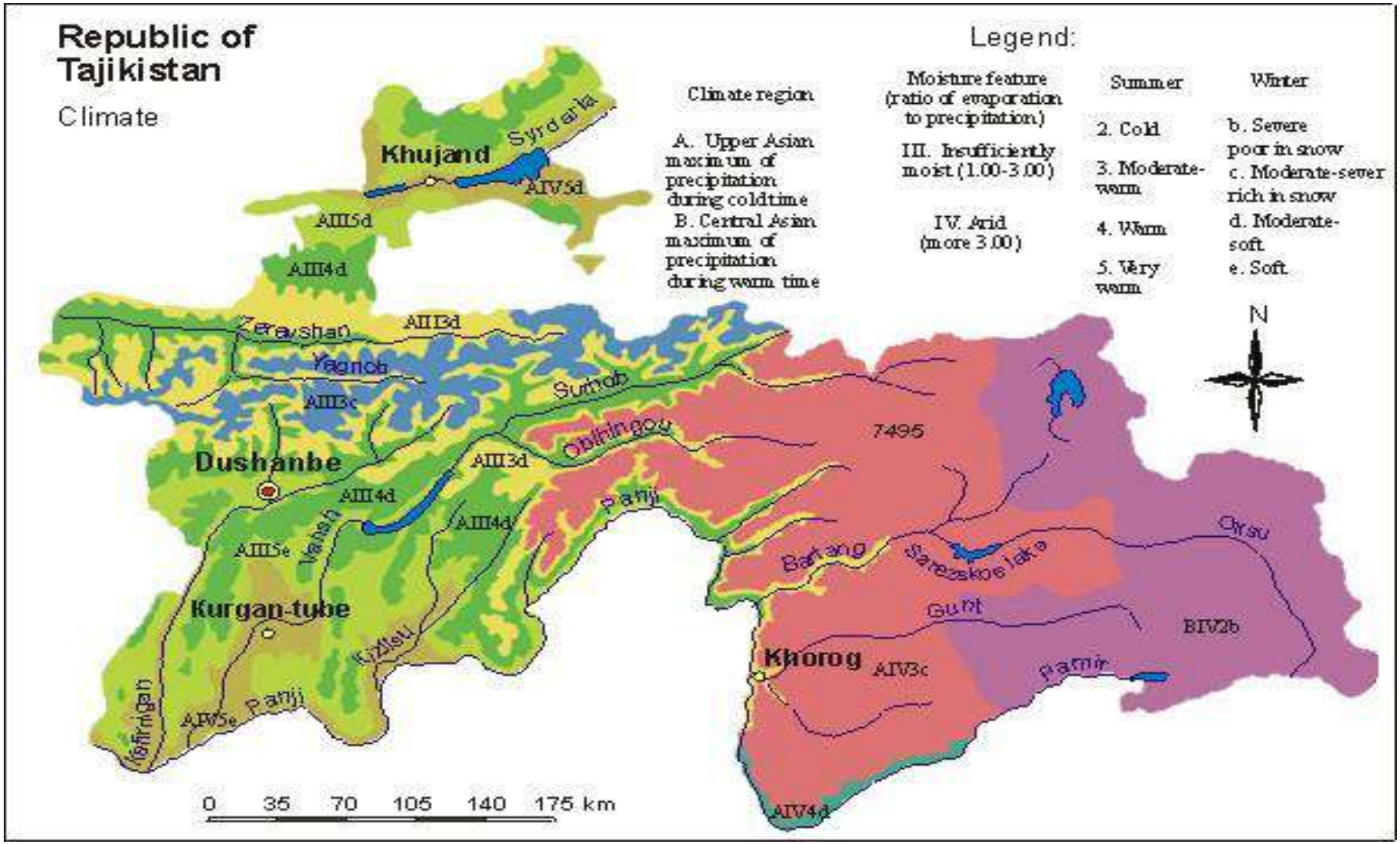


Illustration5: Map of average annual temperatures of the Republic of Tajikistan

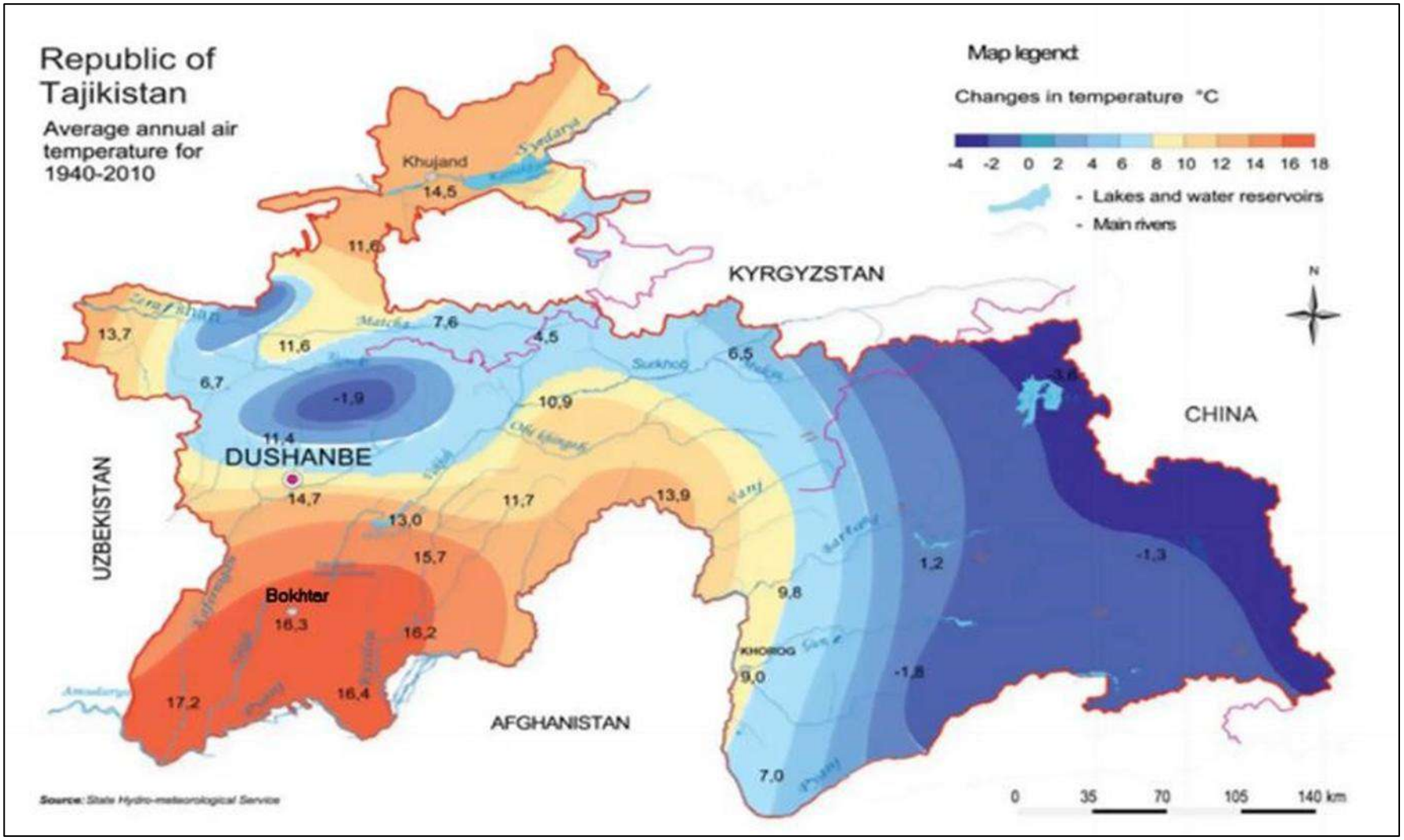
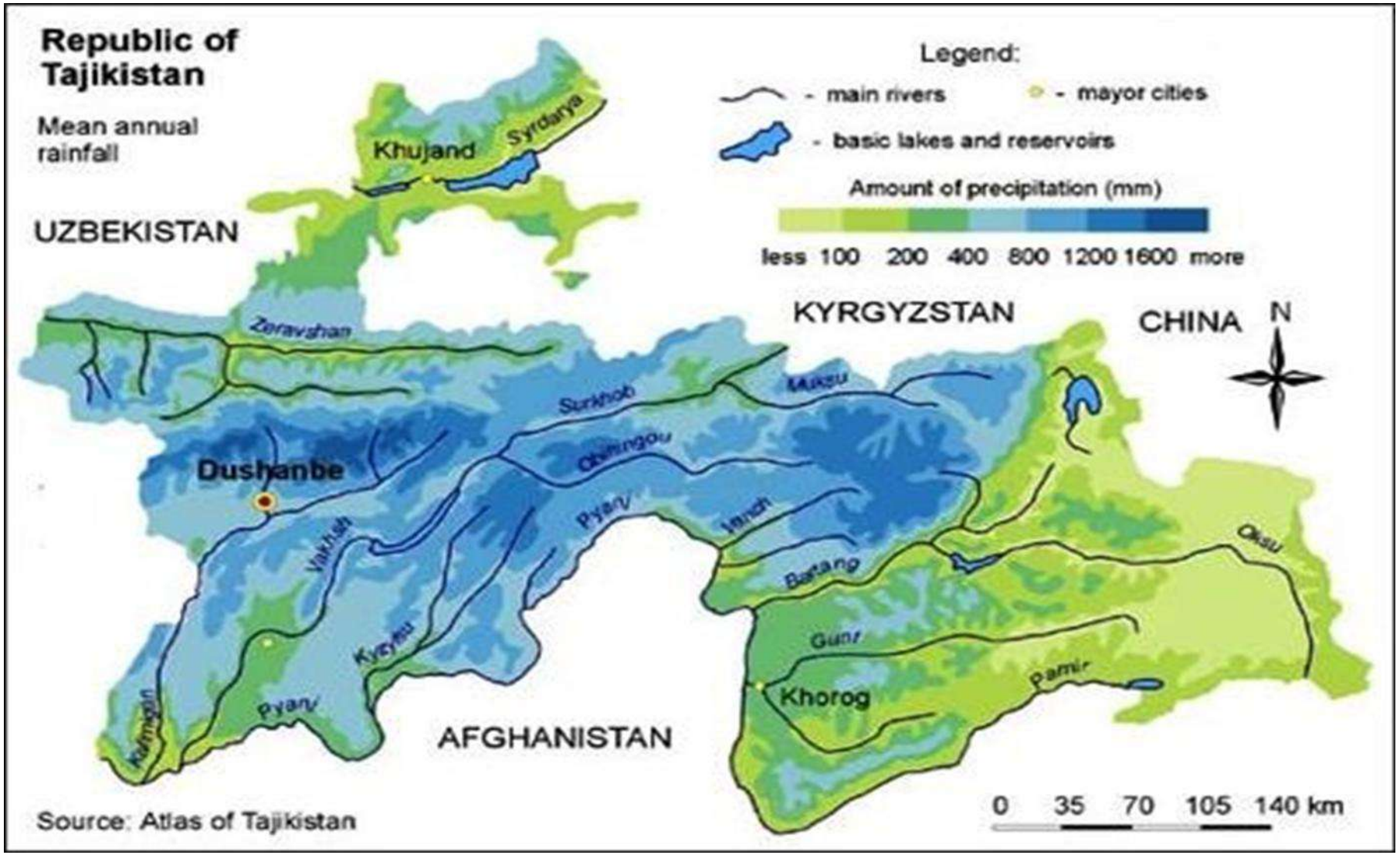


Illustration6: Average annual rainfall in Tajikistan



171. **Hydrology.** The rivers of the Republic of Tajikistan are important sources of fresh water for the Aral Sea. Glaciers and permanent snow feed the rivers of the Aral Sea basin with more than 13 cubic km of water per year. The main rivers are: (i) the Syr Darya, with a total length of 2,400 km, which flows 195 km through the Fergana Valley in the north; (ii) the Zarafshan, which flows through central Tajikistan; and (iii) the Kafirnigan, Vakhsh and Panj rivers, which together irrigate more than 75% of the territory of the Republic of Tajikistan. Groundwater reserves are extensive in the Gissar Valley. Aquifers are usually located at a depth of 5-40 m.

5.2. Ecological resources

172. Although the Republic of Tajikistan is home to a wide variety of animals, birds, vegetation and habitats, biodiversity in the subproject areas is low, as the subprojects are located in urbanized areas. No important, rare, endangered, protected species or critical habitats have been found in the areas affected by the project. Urban vegetation includes ornamental trees and shrubs (e.g., sycamore, elm, simple trees, ligusticum, maple, poplar, pine, microbiota, cedar, Chinese rose, Russian silver, etc.) and garden fruit-bearing species (e.g., mulberry, apple, fig, apricot, cherry, walnut, pomegranate, grape, Pontic hawthorn, Albert's pearl bush, and dog rose). There are no protected or biodiversity-rich areas near the subproject sites.

173. **Floristic communities.** The vegetation of the Vakhsh valley can be attributed to the desert-steppe (300-800 μm) and low-mountain (800-1,300 μm) belts, as well as to the belt of river valleys. The Vakhsh River with its tributaries forms three floodplain terraces. The surrounding hills and mountains have a relatively low height, on average from 1000 to 1500 μm. The highest peak - Mundy-Tau - is located at an altitude of 2227 m above sea level. Almonds and pistachios are planted in some places. Natural vegetation has been severely destroyed or altered by anthropogenic factors. The Vakhsh Valley is the most important region of the Republic of Tajikistan for agricultural cultivation, where cotton is the predominant crop.

174. **Fauna.** The fauna of the Republic of Tajikistan is characterized by great genetic diversity. The mountain fauna is richer than on the plains, and contains a significant amount of European-Siberian and East Asian elements. In the fauna of the hot lowland deserts there are many Indo-Himalaya, Ethiopian and Mediterranean species. Figure 7 shows the distribution of rare mammals in the Republic of Tajikistan.

Illustration7: Map of river basins of the Republic of Tajikistan

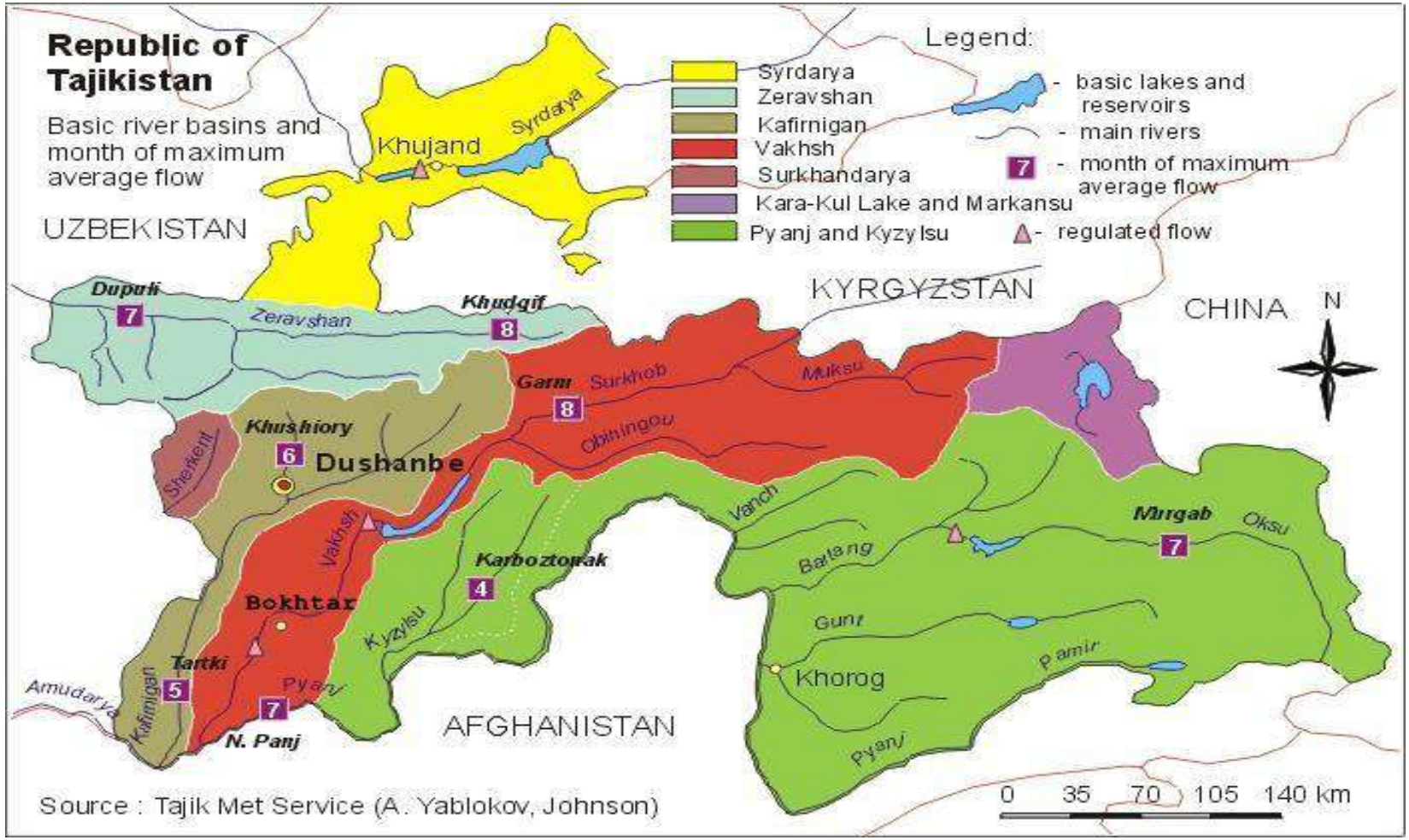


Illustration8: River Network in the Republic of Tajikistan

Illustration9: Vegetation Map of the Republic of Tajikistan

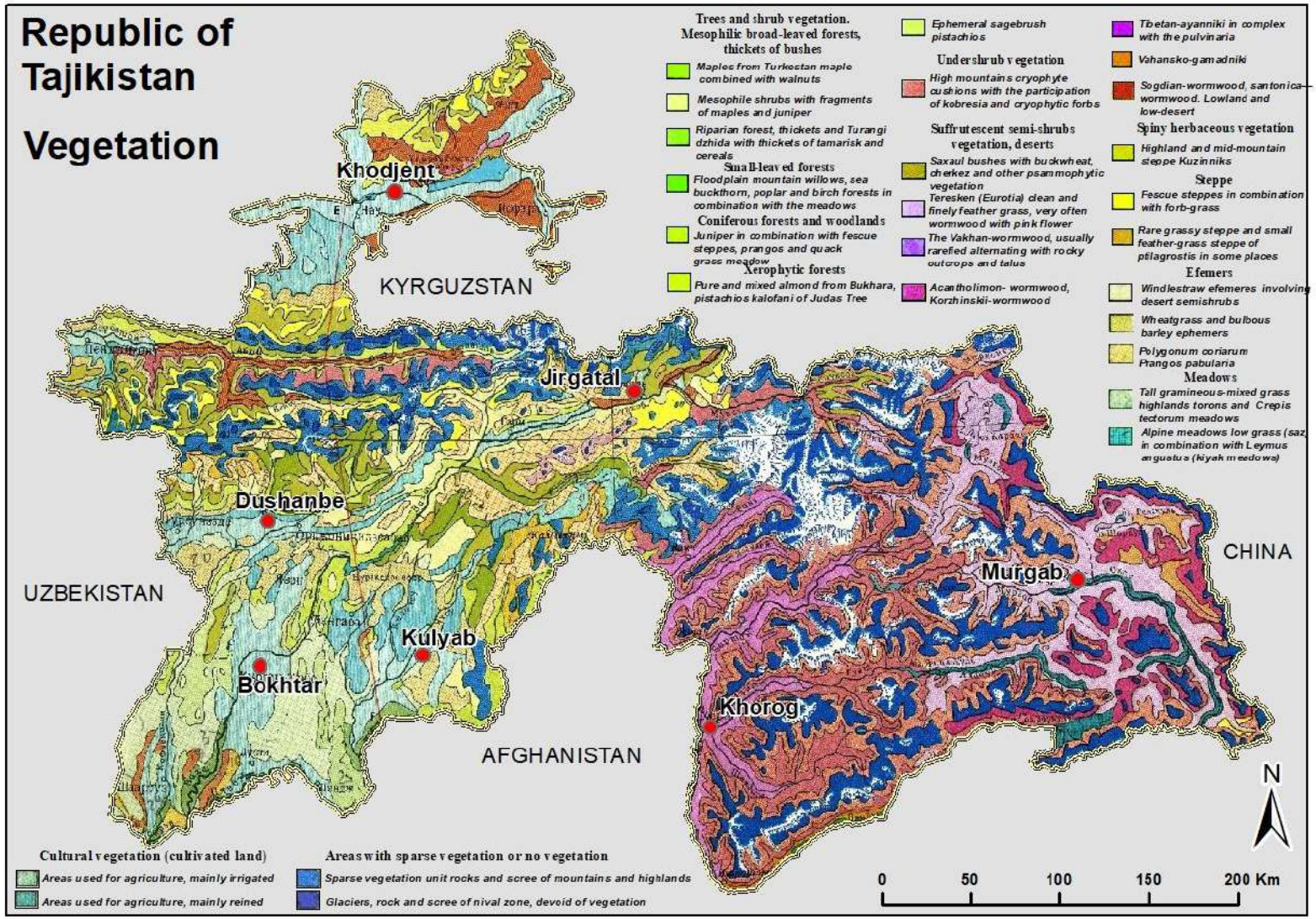
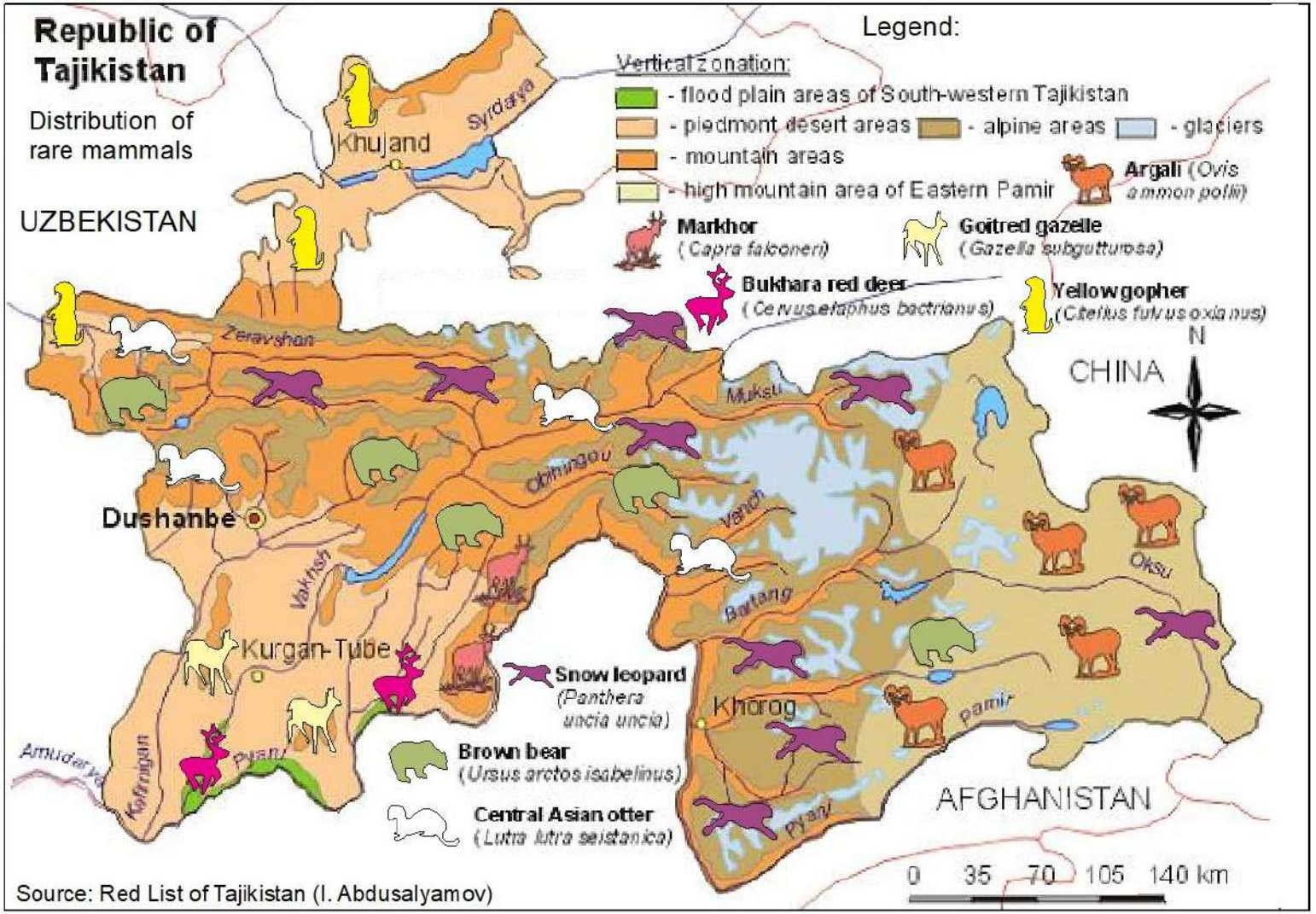


Illustration10: Map of Distribution of Rare Mammals in the Republic of Tajikistan



5.3. Socio-economic characteristics

5.3.1 Population

175. The Republic of Tajikistan belongs to the countries with a rapidly growing population, in 2019 its number reached 9.1 million people (49% of them are women, 40.6% are children under 18 years old and 66% are young people under 30 years old). The average number of permanent residents in the Republic of Tajikistan has increased from 6.1 million people (2000) to 9.1 million people (2019), or by 49%. About 74% of the country's population lives in rural areas. The population of the Republic of Tajikistan is very young.

Table10: Population of the regions of the Republic of Tajikistan according to census data and the latest official estimates

Name	Capital	Area (km²)	Population census of 12.01.1979	Population census of 12.01.1989	Population census of 20.01.2000	Population census 21.09.2010	Approximate population as of 01.01. 2019 year
Tajikistan	Dushanbe	141,400	3,801,357	5,109,000	6,127,493	7,564,502	9,126,600
Dushanbe	Dushanbe	100	500,966	605,135	561,895	724,844	846,400
GBAO	Khorog	62,900	126,783	160,860	206,004	205,949	226,900
Sogd	Khujand	25,200	1,194,683	1,558,158	1,871,979	2,233,550	2,658,400
Khatlon	Bokhtar	24,700	1,220,949	1,701,380	2,150,136	2,677,251	3,274,900

5.3.2 Economy

176. Agriculture is the main economic activity in regions where most of the population lives in rural areas. The main crops and agricultural products are cotton, cereals, oilseeds, potatoes, carrots, onions, cucumbers, cabbage, melon, grapes, milk, wool, honey and eggs. Vegetable gardens and small farms are also considered an important part of the local economy. These include apples, peaches, apricots, almonds, pears, pomegranates, mulberries and walnuts grown on household plots in addition to crops. Cotton makes an important contribution to both the agricultural sector and the national economy. Cotton accounts for 60 percent of agricultural production, supports 75 percent of the rural population and uses 45 percent of irrigated arable land. Cotton is a cash crop that is widely grown in the project's target areas, but requires large amounts of irrigation and chemicals, while many local farmers make little profit from its sale (compared to middlemen and dealers). With the proclaimed freedom to cultivate agricultural land, cotton has plummeted, giving way to other crops preferred by farmers. The irrigation infrastructure inherited at the end of the Soviet era suffered from a lack of investment in routine maintenance, resulting in the gradual loss of cultivated land and damage to quays, water intakes, and canals.

177. About 45 percent of the country's irrigated land is located in the Khatlon region. Cotton is the main crop grown in the area and accounts for 60 percent of the country's cotton harvest. The industry of the Khatlon region is represented by 334 enterprises specializing in chemical production, the production and processing of agricultural and food products, and steel production. The Sughd region accounts for 38% of the irrigated land in the country, together with the Khatlon region, they account for 83% of all irrigated land in the Republic of Tajikistan. The industry of the Sughd region is represented by 459 enterprises. The Sughd region has important industries such as uranium deposits, reservoirs, textile enterprises, gold mining and coal mining enterprises. The level of production in the region is 31.5% of the total industrial production of the country. About 44% of the rice harvest is in the Zeravshan and Fergana valleys of the Sughd region. In the north of the country, apricots, pears, plums, apples, cherries, pomegranates, figs and nuts are produced. Cultivated crops include mainly grain, wheat, barley, corn, rice, beans, potatoes, vegetables, fruits, grapes, fodder, etc. In the areas of republican subordination, building materials and agricultural products, mainly vegetables and fruits, are produced.

178. The Republic of Tajikistan is known as a center of diversity for a large number of cereals, legumes,

vegetables and melons, spices and fruits. It is also considered a source of unique samples of wheat, pistachios, apricots, pears, spinach, apples, pomegranates and figs.4 With the desire to maximize crop production and the subsequent cultivation of monocultures, the diversity of samples used by farmers has decreased to the point that some have been lost and others are at risk of loss.[32]

179. The top ten crops by crop area account for 86% of the total crop area and include wheat, cotton, barley, apples, potatoes, grapes, watermelons (including melons), onions, corn and tomatoes, all of which, with the exception of some apples and grapes, tend to be propagated by seed. Overall, wheat and cotton account for 53% of the total acreage.

5.3.3 Migration and employment by gender

180. Most Tajiks are forced to combine subsistence agriculture, labor migration, and shuttle trade to earn a living. People try to find different ways to earn money by working in villages or elsewhere as drivers, day laborers, shopkeepers, tailors, obstetricians, shepherds, etc. The labor market at the local and district levels is very limited, and the wages for temporary work are very low. Thus, the most significant way to generate income is labor migration, mainly to Russia. The increase in migration since independence has created both challenges and opportunities for women. According to interviews/interviews, the wives of labor migrants take on the role of head of household after the departure of their husbands and make most of the decisions. From numerous individual examples, it can be said that migration has also led to an increase in the number of female-headed households (abandoned by their husbands or divorced women) in the Republic of Tajikistan. The right to make individual decisions in households, for example, regarding agricultural production, remains with men and is granted according to age, merit and experience. Women perform most of the domestic and agricultural work in rural areas, especially in areas where there is a migration outflow among men. The share of officially registered labor migrants is on average 5% in the Khatlon region and more than 10% in the target districts of GBAO.

181. A different level of migration is observed in villages, where it makes up about 10% of the able-bodied population of villages. Mainly local residents migrate to the Russian Federation. Most migrants (more than 90%) are men who go abroad for seasonal work. There are also people who leave for several years, or, as they are often called, long-term migrants. Despite the fact that only 10-15% of the total population of villages migrate, they send relatively high incomes to their households. The level of labor migration and its growth are associated with unemployment, which reaches 60% of the total working population of the local community.

182. Significant unemployment has led to large-scale migration, especially among men, who leave women to run their households, making them responsible for supporting their families, as well as other household chores and caring for children. By the age of 25, 70% of women become inactive, meaning they do unpaid housework, compared to 20% of men who also become inactive by this age. More than 43% of Tajik women do unpaid housework, gardening or caring for other family members, compared to 9% of men. The proportion of female-run households is growing, often through labor migration. A third of men aged 20 to 39 emigrate for most of the year or more, and about 41% of men divorce their Tajik wives after leaving the country. As a result of the divorce process, about 80% of Tajik women are deprived of property rights and alimony. Women are forced to cope with the situation, in addition to their traditional role of caring for children and older family members, traditionally male responsibilities such as maintaining and maintaining the household, caring for fields and animals. These additional responsibilities limit their participation in education and income-generating activities outside the home. In addition, women's paid employment is hampered by a significant reduction in the number of pre-school educational institutions, especially in rural areas, as a result of the fall of the socialist system and the civil war in the country.

[32]Муминджанов, Х. 2008 год. Состояние генетических ресурсов растений для производства продовольствия и ведения сельского хозяйства (ГРРППВСХ) в Республике Таджикистан.

5.3.4 The Role of Women in Agriculture: Gender Action Plan

183. The Republic of Tajikistan recognizes that ensuring food security and simultaneously developing the agricultural sector is critical to strengthening the country's economy, and this is reflected in national strategies to reduce poverty and improve living conditions. National programs focus not only on poverty, but also on access to key resources such as education, health, and business opportunities. These have become prominent as the rural population and agricultural labor force have become increasingly feminized in recent years due to the significant and substantial emigration of men that occurred before the Covid-19 pandemic. However, rural women have limited access to key resources, agricultural inputs, and opportunities, highlighting gender equality as a crucial issue in agriculture. Against this background, some attempts are being made to address this issue, however, significant gaps are still evident. One of the reasons for these gaps, as shown by analytical studies (AIs) conducted by ADB and FAO, is the lack of clear, sex-disaggregated data to help more accurately identify barriers to gender equality, which can therefore be incorporated into policies and programs. These AIs have helped to build a broad understanding of "gender in agriculture" in the Republic of Tajikistan.

184. In retrospect, low wages and a shortage of jobs in rural areas of the Republic of Tajikistan forced more than 800,000 people, mostly men, to migrate from the country in search of work. More than 95% of such migration occurs in the Russian Federation. This high level of male emigration has led to a significant increase in women's responsibilities in agriculture, in addition to household responsibilities. Women's participation in the labour markets of formal and informal jobs is mainly due to the multiple demands of their time and energy in the absence of support from family, community or the state. Informal jobs are those that are not registered or properly accounted for and do not provide formal work status or social protection (pensions and child welfare); however, they provide some flexibility and additional income, which is sometimes the main source of household income. This flexible and informal provision of labour seemed to suit many productive enterprises that need low-paid workers, especially agricultural enterprises. Male emigration has led to a greater involvement of female labour in the agricultural sector – an increase in the proportion of women employed in the agricultural sector, either as self-employed or as wage agricultural workers.

185. Thus, the role of Tajik women in agriculture is divided into three categories: (i) agricultural hired or day laborers, (ii) women managing household gardens, and (iii) dehkan farms (family farms). These roles may overlap, especially the role of women as caretakers, smallholder agricultural producers in their homes, and the visible role as wage or day laborers, which is often not recognized in official statistical reports. In 2018, 69% of women in the Republic of Tajikistan were formally employed in agriculture, compared to 41% of men.[33]

186. As previously indicated, there are no detailed and accurate disaggregated data, however, many recent analyses show that women, despite their active participation in agriculture, suffer from limited access to key resources such as land, credit and livestock, as well as information, including technology and management practices. These characteristics are similar to those of such developing countries where agriculture is low. This is further supported by the fact that the Republic of Tajikistan ranks 123rd out of 149 countries in the global gender gap index, with the lowest scores for women's economic participation and political empowerment[34].

187. **Access to land.** In the Republic of Tajikistan, access to land has a special legal significance. There is no private ownership of land, but individuals have the right to use land through land ownership. In this gender profile, "ownership" of land refers to land use rights that are transferred to persons whose names are included in land certificates and licenses. Rural households usually have small plots or home gardens near their homes, and may also have access to other types of land, such as self-owned agricultural land (dehkan farms) or presidential land (land transferred to rural households by presidential decrees in order to increase the size of garden plots that were less than the national minimum). Despite significant gender-sensitive reform of the Land Code and efforts to improve women's access to land in practice, the prevalence of tradition and custom means that land certificates are most often registered only in the name of the male

[33]Исследованиеролиженщинворошаемом земледелии в водосборном бассейне нижнего Вахша, РеспубликаТаджикистан, АБР, 2020 год.
[34]Мировой экономический форум. 2018 год. Отчет о глобальном гендерном разрыве.

head of household. Women's lack of access to land is due to several forms of inequality. Women often do not have information about their rights to land as members of collective farms or about the land registration process.

188. Despite their dominant role in agriculture, rural women do not have access to land, finance, knowledge and productive resources. Women do not have equal access to land in terms of land size. Legally, men and women have equal access to land,[35] but women's actual ownership is very low. Women face bureaucratic barriers in verifying land certificates and gaining access to their land plots. Women are not deprived of the right to own **land**; however, in practice they may be limited in their access to and management of land, water and other agricultural services. Available statistics for Khatlon and Sughd regions show that few women own and manage farms (see Table 11. Sample of data on women's farms in 4 districts of Khatlon region). Some women received their land shares in the process of decollectivization or inherited them from their parents. However, not all were able to obtain full rights to use the land. Many women still have their certificates with the farm manager, who has every right to decide on production and receive benefits. Shareholders can legally take their land from large collective farms, but there are many uncertainties about what kind of land will be provided and obstacles to registering as entrepreneurs or dehkan farmers.

***Table11: Number of members of dehkan farms in water user associations of Yavan district, A. Jomi district, Khuroson district and Jayhun district of Khatlon region, by sex*[36]**

Number of dehkan farms	Number of dehkan farms headed by women	Percentage of dehkan farms headed by women (%)	Percentage of dehkan farms headed by men (%)
5,094	425	8.3	91.7

189. **Decision-making at the household level.** Traditionally, men make all decisions in Tajik households. However, due to the emigration of men, women have become de facto heads of households and decision-makers. Land plots can be left in the hands of women managers, transferred to the use of close relatives or leased. In some cases, men register land rights in the name of their wives to avoid additional problems during their absence. Male respondents believe that the authorities may treat women farmers better, especially if the actual owner of the land rights is a seasonal labor immigrant.

190. **Access to financial services.** Some families with migrant workers use local formal and informal individual operators to transfer money. The reasons why families use such operators are related to the availability and speed of transfers. If such solutions are not available locally, people can travel to the center of the village or town to make transfers through a bank branch. Alternatively, women living in the neighborhood (mahalla), groups of relatives or employees often form self-support groups that help to accumulate the necessary funds for urgent expenses.

191. **Access to productive resources and information**. Restrictions on human, financial, and social capital, as well as traditions and norms, hinder Tajik rural women's access to new knowledge and skills. Although there are many different types of associations and groups in the agricultural sector, from self-help groups to official dehkan groups, very few women participate. This is an unfortunate level of participation because these (informal and formal) groups provide additional knowledge, training, and even credit.[37] This is also reflected in women's use of new technologies and access to productive resources and information that are lower than men's. Female-headed households are also less likely to own their assets (instead, they share equipment or rent), and they use fewer resources on their land. Women's restrictions on access to and

[35]«Экономика Республики Таджикистан основана на различных формах собственности. Государство гарантирует свободу экономической деятельности, предпринимательства, равенство прав и защиту всех форм собственности, включая частную собственность [статья 12].... Каждый имеет право на собственность и наследование... [Статья 32]». Правительство Республики Таджикистан. 1994 год. Конституция Республики Таджикистан (с поправками2003 года).
[36]Четыре района, расположенные в бассейне реки Нижний Вахш. Исследование роли женщин в орошаемом сельском хозяйстве в бассейне реки Нижний Вахш, Таджикистан, АБР, 2020 год.
[37]ЮСАИД. 2014 год. ОКСХТРеспублики Таджикистан: Оценка коммерциализации сельскохозяйственных технологий. ЮСАИД Проект содействия сельскохозяйственной торговле. Июнь 2014 года.

control over resources such as technology and resources limit the success and sustainability of development.[38]

192. **Activities related to the gender aspects of the project.** The project is well aware that women play a crucial and significant role in agriculture in the Republic of Tajikistan. It also confirms that closing the gender gap is necessary for the full achievement of development goals. The project will aim to close the gender gap related to market access, as well as information and services related to agro-logistics, such as sorting, refrigeration, storage and packaging. It will conduct information campaigns among women farmers and agro-entrepreneurs (on topics such as services offered, benefits of using ALC services, etc.) with the means available to women in order to facilitate women's use of ALC services. For example, given the low penetration rate of mobile telephony in rural areas, especially for women[39], the project can explore the possibility of disseminating information through television, since 96 percent of rural households own it[40]. The project will have one outcome indicator to monitor activities related to Component 2, in particular, an indicator of the level of CRP – female clients using ALC services; and other indicators will also be disaggregated by gender (in particular, clients who are satisfied with the quality of services provided by ALC and clients reporting that a two-way feedback and response channel is working). ALCs are also expected to provide employment opportunities for rural women, including, but not limited to, processing and sorting staff – tasks often attractive to women.

193. In line with this, it is proposed to develop a Gender Action Plan (GEAP) that will help to promote socio-economic progress and women's empowerment through interventions at both the macro and micro levels. The ultimate goal of the plan is to ensure that the project responds to the strategic and practical needs of women. To ensure that women are given the opportunity to participate in the project, and that they are represented in key planning and management structures. However, the scope of the RAP will be limited to the project boundaries and mapped around key seed production centres and value chain facilities. The preparation of the RAP will be managed by the PMU with the assistance of external consultants,

194. and will include the following processes.

i. Identify key seed production centers and value chain facilities. Geographically designate the zone of influence (district, jamoat, village or mahalla) on the map.
ii. Conduct a rapid social assessment in the target areas – identify the roles and functions that different stakeholders (women, men, extension organizations, researchers, etc.) currently perform in agriculture.
iii. Find out the difficulties/shortcomings expressed by different subgroups of stakeholders, as well as their expectations.
iv. Prepare a gender map – indicating the role that women play in agriculture compared to women at different stages of farming, and identify gender gaps. Particular attention will be paid to identifying women's "technological" needs, such as reducing their workload (hard work).
v. Gender mapping should also be carried out at the level of the participating institutions – research, information and other departments/structures.
vi. Develop an action plan to close the gaps. These will include capacity-building programmes (to be carried out at different levels); and information, education and communication (IEC) campaigns.

[38]ЮСАИД. 2014 год. ОКСХТРеспублики Таджикистан: Оценка коммерциализации сельскохозяйственных технологий. ЮСАИД Проект содействия сельскохозяйственной торговле. Июнь 2014 года.
[39]Только 54 процента женщин владеют мобильным телефоном, причем доля мобильных телефонов в сельской местности намного ниже (48 процентов), чем в городах (71 процент). Источник: Агентство по статистике при Президенте Республики Таджикистан, Министерство здравоохранения - Минздрав/Таджикистан, и компания ICF. 2018 год. Демографическое и медицинскоеисследование Республики Таджикистан 2017 год. Душанбе, Республика Таджикистан: CO/Таджикистан, Минздрав/Таджикистан, и компания ICF. Доступно на http://dhsprogram.com/pubs/pdf/FR341/FR341.pdf.
[40]ФАО, 2016 год. Национальный гендерный профиль средств к существованию в сельском хозяйстве и сельской местности – Республика Таджикистан.

5.3.5 Forced and child labour in agriculture: cotton production

195. Between the 11th and 16th centuries, Tajikistan was ruled by the Turks, Mongols, and Uzbeks. Tajikistan passed to the Russian Empire from the Uzbeks. During this time (1897-1917), the nation experienced many economic and political achievements, including the introduction of cotton. A revolt against Russian troops began in 1916, which eventually led to the transformation of Tajikistan into a full-fledged Soviet Republic in 1929. In the 1980s, a social movement began that led to the declaration of sovereignty of Tajikistan in 1991. However, civil war soon broke out. The war lasted five years (1992-1997) and claimed the lives of almost 50,000 people, left 500,000 homeless, damaged the economy, and led to a legacy of political corruption and violence[41]. As a result, human rights issues – freedom of the media, religion, political intolerance, labour standards and the actions of security forces – have come to the fore. In particular, forced labour and child labour in the cotton sector have attracted global attention. Consequently, the Republic of Tajikistan has taken decisive steps on all fronts – legal, institutional and regulatory – towards the elimination of forced and child labour. Although the risks of child labour are constantly decreasing, monitoring nevertheless continues. Acknowledging such efforts, the proposed project would like to lend a helping hand to the Republic of Tajikistan in its efforts to monitor child labour

196. **Risks of child labour. Child** labour is often defined as work that deprives children of their childhood, their potential and dignity, and is harmful to their physical and mental development. It refers to work that is psychologically, physically, socially or morally dangerous and harmful to children; and/or interferes with their learning by depriving them of the opportunity to attend school; forcing them to leave school prematurely; or requiring them to try to combine school attendance with excessively long and hard work.

197. **Legislation on labour rights.** Tajikistan fully complies with international treaties on labour standards. Provisions on labour rights are enshrined in the Labour Code. Forced labour: Article 8 of the Code prohibits forced labour, except when it is performed during military service and in extraordinary circumstances. The Civil Code (chapters 800-802) stipulates that contractual obligations may be changed only by mutual agreement of all parties, and it is prohibited to impose additional obligations on the parties. Article 35 of the Constitution prohibits forced labour and the involvement of women and children in hazardous and underground work. It also guarantees the right to work, free choice of profession, protection of work and social guarantees against unemployment, as well as equal pay for equal work.

198. Tajikistan is also a party to numerous international human rights treaties for the protection of workers, including the following: United Nations (UN) and International Labour Organization (ILO) conventions: • International Covenant on Civil and Political Rights; • International Covenant on Economic, Social and Cultural Rights; • UN Convention on the Rights of the Child; • ILO Convention on Minimum Age (1973); • ILO Convention on the Worst Forms of Child Labour (1999); • ILO Convention on Forced Labour (1930); and • ILO Convention on the Abolition of Forced Labour (1957). In accordance with the Constitution of the Republic of Tajikistan and the 1999 Law on International Legal Instruments, the Republic of Tajikistan recognizes several international agreements as a fundamental element of the country's legal system.

199. **The** minimum age for employment is 15 years, but in some cases of vocational training, light work may be permitted for 14-year-olds (Article 174). In addition, there are some restrictions on what kind of work workers under the age of 18 can perform and what hours of work are permissible. Examples of labor restrictions include that persons between the ages of 14 and 15 may not work more than 24 hours per week, and those under the age of 18 may not work more than 35 hours per week; during the school year, the maximum number of hours is half of that, 12 and 17.5 hours, respectively. These restrictions are in line with the ILO Convention concerning Minimum Ages. In addition, the Parents' Responsibility for the Upbringing and Education of Children Act makes it incumbent upon parents to ensure that their children do not perform hard and dangerous work and attend school.

200. The Labour Code provides specific provisions for students; working hours are limited to only half of the hours allowed for minors who are not students, and students are entitled to additional paid leave,

[41]Условия труда в хлопковой промышленности Республики Таджикистан, 2007 годhttps://laborrights.org/sites/default/files/publications-and-resources/Tajikistan_report1007.pdf

reduced working hours and other privileges. In addition, Article 19 of the Labour Code prohibits the interruption of the direct duties of specialists in the field of education and the involvement of pupils and students in agricultural and other labor activities not related to the educational process. Paragraph 4 of Chapter 26 of the Law of the Republic of Tajikistan "On Education" states: "In educational institutions, regardless of organizational and legal forms and forms of ownership, it is prohibited to distract teaching staff from the performance of their main duties, to involve pupils, schoolchildren, pupils, graduate students in agricultural and other work not related to education and upbringing."

201. **Economy. The** Republic of Tajikistan is widely recognized as the poorest of the post-Soviet republics. The civil war has severely affected the country's economic and physical infrastructure, causing the already fragile industrial and agricultural production enterprises to shrink. The economy of the Republic of Tajikistan is mainly determined by agriculture and is highly dependent on cotton exports as a source of income and employment. Agriculture accounts for 48% of employment and 23% of GDP[42]. As of 2019, the country's GDP stood at US$8.1 billion[43].

202. **Cotton industry of the Republic of Tajikistan.** In 2007, the only cash crop of the Republic of Tajikistan – cotton – provided 15% of the country's exports, 39% of tax revenues and 22% of GDP, and accounted for 50% of the country's workforce[44].

203. History of cotton production in the Republic of Tajikistan prior to independence. The Soviet Union fully funded the country's cotton industry. The Soviet Central Planning Office set production quotas for the country annually. The Ministry of Agriculture of Tajikistan was provided with resources, including infrastructure services, to plan production for the year. The agricultural industry and the Ministry of Agriculture were responsible for allocating the capital needed to meet the target quotas set by the government, local government bodies known as hukumats. The goals set for the hukumats were based on a certain quality and production capacity defined by the Ministry, however, the hukumats paid little attention to these recommendations and simply passed unrealistic quotas to farm managers. Farm managers were nominated by hukumats and elected by their employees, who received salaries. Both farm managers and workers received in-kind basic necessities or other products at subsidized prices. Raw cotton was transported to designated ginning plants for further processing and then to the relevant Soviet authorities. Production records were carefully kept, whereby payments were made back to Agroprom to the farmer's account. Farmers who did not meet the allocated quotas were usually replaced. After the Civil War, the government did not have the resources needed to sustain cotton production. As a result, independent financiers emerged who provided alternative means of financing the country's industry. Newly reorganized farms entered into contracts with these futures companies, which provided funds to farmers upfront on credit. In return, farmers were required to produce a certain amount of cotton destined for pre-designated gins. Once the raw cotton is processed into fiber for export, the farmer's account is credited based on the prevailing price on the Liverpool Stock Exchange. If the farmer does not deliver the expected amount of cotton, there is arrears with interest.

204. Land reform, liberalization of the cotton subsector, cancellation of farmers' debts for cotton, and reduction of local government interference in farmers' decisions ("freedom of farming") have been the focus of reforms since 2007. The results of the RICA study (2013) demonstrate that freedom of farming has now become a reality for the majority of farmers in Tajikistan. Eighty-seven percent of growers report that they are "free to decide which crops to grow and how much land to allocate for each crop." Less than 1% of crop growers report that they are forced to sell products to certain buyers, either local authorities or lenders. Land reform has progressed further with an increase in the number of dehkan farms, reaching more than 164,000 in 2017 (5.5 times more than in 2012), with 80 percent of arable land now managed by private dehkan farms (Tajstat, 2018). Cotton production has now stabilized at around 180,000 hectares, well below the peak level of 293,600 hectares after independence in 2004. About 80% of cotton production was accounted for by private dehkan farms of relatively small size[45].

205. **Cotton-growing regions.** The Republic of Tajikistan is divided into five administrative

[42]https://pubdocs.worldbank.org/en/209521554997976969/Tajikistan-Snapshot-Apr2019.pdf
[43]https://pubdocs.worldbank.org/en/417161587043463422/Tajikistan-Snapshot-Apr2020.pdf
[44]https://laborrights.org/sites/default/files/publications-and-resources/Tajikistan_report1007.pdf
[45]Проект устойчивойирригации в Таджикистан (P175356), Концептуальный документ, 2021 год.

oblasts/regions. The two main cotton producers are the Khatlon region and the Sughd (Leninabad) region. While 93% of the land of the Republic of Tajikistan is mountainous, almost seven percent (7%) of the country's arable land is located in the Sughd and Khatlon regions. According to the World Bank, 73% of the total population of the Republic of Tajikistan lives in these two regions. In these two regions, poverty rates differ; 17.5% of the population is considered "poor" in the Sughd region and 32.7% in the Khatlon region (2018). The Sughd region is located in the northwestern corner of the country known as the Fergana Valley, bordered by Uzbekistan to the west and Kyrgyzstan to the east. There are sixteen different districts in this area, most of which are the country's most fertile cotton growing lands. Khatlon region is the most populous region, located in the southwestern region of the Republic of Tajikistan and includes about 25 different districts. Afghanistan borders the region to the southeast, and Uzbekistan borders the Khatlon region to the west. Russia is consistently the main export market of the Republic of Tajikistan, holding almost 30% of the market share. Tajik cotton fiber is also sold on the Liverpool Cotton Exchange and to brokers in Latvia and Switzerland. Other CIS countries, such as Uzbekistan and Kazakhstan, are among the main importers of Tajik cotton fiber.

206. Over the past decade, the ILO Third Party Monitoring (MTS) has demonstrated significant progress in the Republic of Tajikistan in eradicating child labour and forced labour in the country. The Child Labour Monitoring System (MTS) in the Republic of Tajikistan was developed in stages and tested during 2008-2018, and it has become one of the main factors in reducing the number of working children and eradicating the worst forms of child labour[46]. The country's achievements are as follows:

- The National Commission on Children's Rights (NCAD) under the Government of the Republic of Tajikistan was established in 2001.
- The Child Labour Monitoring Unit of the Ministry of Labour (2009) was established to carry out methodological analyses and train professionals who monitor child labour and collect statistics and other information, study changes in trends and other factors related to them in the MDTD, and promote effective methods to reduce child labour and prevent its worst forms in all regions of the country.
- Established and implemented a pilot programme of MDTF in agriculture and the urban informal sector in 12 cities and districts;
- The committees included all local executive bodies responsible for the protection and observance of the rights of all children, including working children. The committees included specialists from the Children's Rights Unit, who coordinate the monitoring of child labor in each administrative district. Observers, who are specialists in monitoring child labor, work directly with children involved in the labor market. Analysis of the activities of committees or commissions for monitoring child labor under local executive state bodies showed that child labor monitoring is more effective at the level of administrative districts. Local authorities and structures – the Commission on Children's Rights, the Department of Education, the Department of Internal Affairs – are responsible for child labor at the district level.[47]

207. Established in 2012, the Interdepartmental Coordination Council on the Elimination of the Worst Forms of Child Labor (IDMC) operates under the Ministry of Labour, Migration and Employment (MLPA), which is responsible for the implementation of the ILO's technical and fundamental conventions. The MLMS's subordinate units, as well as the State Service for Supervision of Labour, Employment and Social Protection, are responsible for monitoring the labour market, including monitoring child labour. The MLPS is responsible for coordinating the implementation of the National Programme for the Elimination of the Worst Forms of Child Labour in the Republic of Tajikistan for 2015-2020. The IMCS includes representatives of the Ministry of Labour, the Ministry of Education and Science; the Ministry of Culture; the Ministry of Health and Social Welfare; the Ministry of Justice; the Ministry of Finance; the Ministry of Internal Affairs; the Ministry of Agriculture; and representatives of the National Commission on Children's Rights; the Commissioner for Children's Rights; the Agency for Statistics; The Federation of Independent Trade Unions of the Republic of Tajikistan and its committees; the Association of Employers; the

46 Некоторые передовые практики, использованные в Проекте “Борьба с детским трудом и торговлей людьми в Центральной Азии – приверженность превращается в действие” реализованный в Республике Таджикистан, 2019 год. *https://www.ilo.org/wcmsp5/groups/public/---europe/---ro-geneva/---sro-moscow/documents/publication/wcms_717019.pdf*

[47]https://www.ilo.org/wcmsp5/groups/public/---europe/---ro-geneva/---sro-moscow/documents/publication/wcms_717019.pdf

Committee on Women and Family Affairs under the Government of the Republic of Tajikistan; the Committee on Youth and Sports; as well as international organizations, interdepartmental commissions and civil society organizations. The IDCS meets periodically every 6 months. At its meetings, topical issues of the implementation of the National Program for the Elimination of the Worst Forms of Child Labor and the results of statistical surveys, evaluations and monitoring are considered.

208. The 2012 Child Labour Survey, conducted by the Agency on Statistics under the President of the Republic of Tajikistan in cooperation with the ILO-IPTI, showed that there are 2.2 million children aged 5 to 17 in the Republic of Tajikistan. Of these, 23.4 per cent or 522,000 are working children. The highest level of child employment (45.5 per cent) is registered among boys aged 15 to 17. However, the employment rate is also quite high among children aged 5 to 11 (26.9 per cent). Among children aged 7 to 15 years, it is almost 100 per cent, while in the age group between 16 and 17 it drops to 83.6 per cent. Children are more likely to combine their school studies with unpaid work in the household. More than 20 per cent of them combine schooling, household work and paid work. Thus, in the age group of 16 to 17 years, the proportion of children attending school only is only 5.2 per cent[48]. The 2016 Labor Force Survey conducted by the Statistics Agency showed that there are 957,000 children aged 12 to 17 in the Republic of Tajikistan. Of these, 13.1 percent or 125,000 are working children. The level of working children decreased from 23% in 2012 to 13% in 2016[49].

209. The Government of the Republic of Tajikistan has approved the National Programme of Action (NAP) for the Elimination of the Worst Forms of Child Labour for 2015-2020, which outlines steps to eradicate hazardous forms of child labour for children under 18 years of age. This document defines the Government's policy on the social phenomenon of child labour and ensures persistent and effective efforts to address it. The Government has also approved an official list of jobs with harmful and dangerous working conditions, which prohibit the employment of persons under 18 years of age and the maximum permissible loads that can be lifted manually (Government Decision No 169 of 2014). It includes such subsectors of agriculture as watering and processing of cotton, greenhouses, tobacco collection and processing, pasture and silk production. Control over the implementation of the Government Decree is entrusted to the State Supervision Service in the Field of Labour, Migration and Employment under the Ministry of Labour and Health.

210. In April 2018, the National Action Plan for the implementation of the recommendations of the third and fifth annual reports of the Republic of Tajikistan on the implementation of the Convention on the Rights of the Child for 2018-2022 was approved, paragraph 31 of which provides for measures suitable for combating illegal forms of child labor and monitoring child labor in all cities and regions by the Ministry of Labor and Health and the Commission on the Rights of the Child under the Government of the Republic of Tajikistan. Taking into account the efforts made and the improved situation, systematic violations of child labor can no longer be considered a serious problem.

211. **Measures to monitor child labour within the framework of the project. The** project emphasizes and supports the approved provisions on forced labour and the reduction of child labour and the elimination of its worst forms. The project will support measures to prevent the use of forced labour and child labour in the project activities. To this end, appropriate and adequate monitoring efforts will be made. However, at the moment the geographical seal of the project is not known. So, it is difficult to make measurements in detail. Thus, the approach and methodology for monitoring child labour will be developed in the Project Operational Manual during implementation. In general, the measures will depend on the places where the project will intervene.

- *Project Institutions*. All agencies involved in the project will be required to comply with all legal provisions developed in the ESP, this is also referred to in the ESP.
- *Overall capacity building*. In particular, the project will develop engagement with district child rights offices in raising awareness among local dehkan farms about the legal restrictions on the use of child labor; and building the capacity of the project's Regional Offices (PMOs) to monitor child and forced labor at project sites. To this end, the PMU will collaborate with labor specialists and

[48]*http://no-childlabour.tj/ru/Child%20labor%20statistics%20in%20the%20Republic%20of%20Tajikistan/*
[49]Агентство по статистике, 2017 год.

inspectors from the Ministry of Labor, Migration and Employment (MLML) to: (i) conduct regular trainings for hukumats and ROP staff on labor practices and the use of monitoring tools; (ii) monitor and report all identified cases; and (iii) conduct a public awareness campaign on labor rights, practices, and grievance mechanisms. The PMU will establish an internal communication channel with the MLRP State Oversight Service to report cases of forced and child labor filed through the project's ITF and facilitate the investigation process.

- The PMU will also work with the *Association of Employers of the Republic of Tajikistan and the National Association of Dehkan Farms of the Republic of Tajikistan* to raise awareness among farmers and agricultural employers about the legal restrictions on the use of child labor and forced labor.
- Use *of civil society organizations (CSOs) and non-governmental organizations (NGOs).*
- The PMU will also try and explore how *ILO and UNICEF* can be involved in project efforts.

5.3.6 Poverty and vulnerability

212. Despite various efforts to promote growth and development in the Republic of Tajikistan, the country is still hampered by high poverty rates and limited economic opportunities. In the Republic of Tajikistan, 27.4% of the population lives below the national poverty line in 2018. There are significant differences in poverty rates between regions, with poverty being predominantly rural. The average poverty rate in urban areas was 21.5%, while the poverty rate for rural areas was 30.2% in 2018. By region, the lowest poverty rate is in Sughd region, which is 17.5%, and the highest is 33.2% in the Districts of Republican Subordination, while in GBAO the poverty rate is 27.7%.[50]

213. The poverty rate fluctuates significantly during any given year, depending on the availability of work and income from remittances. Job creation has been slow and has not kept pace with the rapidly growing population.

214. The problem of poor workers continues to be one of the dominant poverty lines in Tajikistan. Half of those employed in the domestic labour market are poor. Almost 80 per cent of poor workers live in rural areas. Low labour incomes and high prevalence of temporary employment, informality (lack of employment contract) and unpaid work are the main reasons why there are so many poor workers.

215. Migration, mainly in the form of temporary work abroad, has become one of the key strategies for households to combat poverty. The analysis shows that a quarter of households have at least one migrant abroad. In households with migrants, remittances account for up to 35 percent of household consumption – and even more for households in the lower deciles of consumption distribution. Tajikistan's migration model is predominantly seasonal migration with low skilled, with 96 percent of migrants heading to Russia, of which 55 percent worked in the construction sector and another 30 percent in other low-skilled jobs.[51]

216. Against a backdrop of high poverty and low employment, Tajikistan has a rudimentary social protection (SS) system dominated by old-age and disability pensions. The largest program in terms of coverage is the old-age pension, which is received by a third of households. Total expenditure on social assistance is very low – 0.5 percent of GDP and the lowest in the ECA region – and programs are small in size and coverage. Less than 1 percent of households receive any of the smaller social assistance benefits, such as gas and electricity compensation. To improve the SPA system and its impact on poverty, the Government of Tajikistan has introduced targeted social assistance to achieve greater coverage of the poor and vulnerable, although such payments are considered very small.

[50] *https://www.worldbank.org/en/news/infographic/2019/10/17/poverty-in-tajikistan-2019*
[51] Оценка рабочих мест и навыков, 2018 год.

VI. ENVIRONMENTAL AND SOCIAL IMPACTS OF THE PROJECT

217. The project will bring positive social and economic benefits through the establishment and maintenance of the necessary infrastructure. However, certain activities that will be financed under the project may result in several adverse environmental impacts, mainly during the construction phase of the planned sub-projects. These impacts will be related to waste generation, noise, dust and air pollution, impacts from the possible use of pesticides, health and safety risks, etc. All of these are expected to be typical of small-scale construction/rehabilitation activities, temporary in nature and site-specific, and can be easily reduced by applying best construction practices and appropriate mitigation measures.

218. A brief summary of the potential environmental and social risks and impacts during the implementation of the project, together with the recommended mitigation measures, is presented in 1e below. The proposed measures can be used to develop a site-specific CAP for the selected sub-projects.

6.1. Potential environmental impacts and risks

219. The negative impacts are mainly related to the physical and biological components of the environment and are related to water, air and soil pollution, soil erosion, loss of biodiversity and habitats, health risks, energy and water consumption, and solid waste disposal. The potential adverse environmental impacts of the proposed activity can be summarized as follows: (a) agricultural production: soil erosion, loss of soil productivity, soil compaction, soil pollution, surface and groundwater pollution, health and environmental risks associated with the use of agrochemicals, loss of biodiversity, waterlogging and salinization of irrigated lands, and disturbance of natural habitats; (b) agro-processing and production: contribution to surface water pollution, waste generation, unpleasant odours; (c) small-scale construction and/or rehabilitation of existing premises: soil and air pollution; acoustic interference, construction waste and potential problems with asbestos, toxic materials, etc.

220. ***Identified effects of pesticides on soil and groundwater pollution and on farmers' health.*** Some existing studies of pesticide exposure have shown an increase in the incidence of respiratory diseases, rheumatism, gastrointestinal malignancies, nephritis, gastric ulcers and nervous diseases in areas with high concentrations of pesticides believed to be located near storage facilities. However, there is no reliable data to support this claim. Excessive and uncontrolled use of pesticides in agriculture during the Soviet era is believed to have led to significant contamination of soil, water and other media. According to some documents, the concentration of pesticides in food in the 1970s and 1980s was 7-10 times higher than the maximum permissible concentration (MPC). Similarly, there is no evidence and data on the effects of pesticides on human health. It is widely believed that dehkan farms cannot afford to buy pesticides on their own, and therefore such exposure is minimal. Even when dehkan farms have access to pesticides, that is, they are supplied by investors, the concentrations applied by dehkan farms are usually lower than required. At the same time, everyone agrees that there are cases when dehkan farms use cheap but ineffective or outdated pesticides that do not kill pests, but damage the microflora of the top layer of soil. As there is no reliable information on soil/groundwater contamination and health effects, it can be assumed that improper transport, storage and application of pesticides have the potential to cause soil and groundwater contamination, as well as affect farmers' health.

221. Fumigation plants in the ALC are operated in strict compliance with the national legislation of the Republic of Tajikistan and the World Bank's Environmental and Social Standards (ESS). Contractors and operators are required to use sealed chambers, filtration ventilation systems, ensure strict access control, and use PPE in accordance with approved chemical and occupational health protocols.

Table12: Pesticide application

Potential impacts	Causes	Aftermath	Necessary mitigation measures
Diseases/diseases	Improper handling, application and storage of pesticides. Consumption of crops with high pesticide residues	Increased health care costs; loss of working hours; loss of family income.	Proper handling and use of pesticides; Proper storage of pesticides; Use only permitted pesticides; Sanitary measures (proper cleaning, washing, etc.)
Soil pollution	Pesticide residues in the soil	Loss of soil productivity; long-term loss/change of soil microfauna important for soil-plant relationships.	Use of approved pesticides and recommended application rates, schedules and methods of application (see Annex 6 for other pesticide-related measures)
Biodiversity loss	Ingestion of pesticides by representatives of fauna	Loss of fauna	Use of approved pesticides and recommended application rates, schedules and methods of application (see Annex 6 for other pesticide-related measures)
Water pollution	Groundwater and surface water pollution	Deteriorating health of local and downstream water users; increased health care costs; loss of working hours; loss of family income Damage to aquatic ecosystems. Loss of biodiversity.	Use of approved pesticides and recommended application rates, schedules and methods of application.

222. The impact of seed procurement (including treated seeds), fertilizer application is summarized in the tables below.

Table13: Seeds

Potential impacts	Causes	Aftermath	Mitigation/Prevention Measures Needed
Contamination of soil, groundwater and surface water / Use of chemical fertilizers and pesticides	Improper use of seeds, misuse	Nutrient pollution of surface water leading to eutrophication of water bodies Pesticide pollution of water and soil/effects on human health and biodiversity	Avoid excessive fertilization (for other fertilizer-related measures, see Appendix 6 Annual Crop Production and Plantation Plant Production); -Avoid the use of banned and obsolete pesticides - Use only pesticides that are labelled in accordance with international standards and regulations (for other pesticide-related measures, see Appendix 6. Annual Crop Production and Plantation Crop Production)

Risk of introducing genetically modified plant seeds	Transfer of introduced genes to other species (possibly weedy or invasive), unforeseen effects on beneficial insects or increased pest resistance. Another problem associated with the introduction or export of plants and plant products is the possibility of pest introductions	Gene drift to other areas where GMOs are undesirable	- Use certified crop seeds that do not contain seeds from invasive alien species; The introduction of GMO crops should be evaluated for compliance with the existing regulatory framework of the host country for such introduction

Table14: Fertilizer application

Potential impacts	**Causes**	**Aftermath**	**Necessary mitigation measures**	**Notes**
Soil degradation/reduction of soil organic matter	Dependence on chemical fertilizers that do not contain an organic component - less dependence on compost and manure to meet soil fertility needs.	Change in soil structure and decrease in soil moisture holding capacity; Increase in soil acidity. In the long term, possible decrease in productivity as a result of insufficient soil moisture; Loss of natural soil fertility.	-Apply organic matter such as manure to replace chemical fertilizers as far as is practical; - Apply manure to the soil or apply it between growing crops to improve nutrient utilization by plants and thus reduce nutrient loss, etc.	Develop fertilizer application rates and optimal farming and crop rotation plans
Air pollution	Greenhouse gas emissions from chemical fertilizers.	Contribution to global warming leading to climate change	- Where possible, use biofuels instead of fossil fuels to reduce net greenhouse gas emissions; - Apply reduced tillage options to increase the ability of soils to store carbon	
Water pollution	Enrichment of water bodies with nutrients as a result of fertilizer runoff	Eutrophication of water bodies Modified aquatic ecosystems.	-Time to apply crop nutrients using meteorological information. to avoid, where	Develop and implement the most suitable farming and crop rotation methods for the

			possible, fertilization during or before rainfall; -Use appropriate technical equipment for spraying manure; -Establish buffer zones, strips, or other areas where "no treatment is being done" along water sources, rivers, streams, ponds, lakes, and - Create buffer zones, strips, or other "no-treatment" zones along water sources, rivers, streams, ponds, lakes, and ditches to act as a filter to capture potential runoff from of land	area. The impacts from a single farm will not be significant, but in aggregate, for many farms within the same catchment, the impacts may be significant

223. ***Waste generation*** will take place during the construction phase, as well as during construction (construction/renovation) work and the dismantling of premises and individual elements of the building. Waste generation - two types of waste are expected to be generated as a consequence of the project work: non-hazardous and hazardous. Non-hazardous waste will be construction waste that will be generated during construction/renovation work. Storage of such waste in areas close to settlements, as well as untimely or improper disposal, can affect air quality, dust generation and affect neighboring communities. In addition to this waste, used welding rods, packaging materials and wood will also be generated. As a rule, most of the waste generated at this stage is classified as recycled waste, and its timely and correct disposal will ensure minimal impact on the environment. Construction waste, as well as other waste (paper, glass, plastic, etc.) should be separated into separate containers. Hazardous wastes - can be generated during the operation phase of a sub-project such as technology transfer (demonstrations in extension services and on farms, demonstration orchards and greenhouses). Table16, special attention should be paid to pesticide handling. Waste disposal sites should be carefully selected at the construction site, and waste classification and disposal rules should be prepared in environmental management plans.

224. A waste management plan will be prepared for the proper management of all types of waste generated during the implementation of the project.

225. ***Air pollution*** – air pollution is mainly expected to be caused by dust and emissions from construction equipment. Dust generation will occur during most construction/rehabilitation activities related to earthworks, traffic, building repairs, etc. In particular, the risk of dust pollution will increase in windy conditions. The magnitude of the exposure will increase if construction/rehabilitation work is carried out in the immediate vicinity of a settlement. Given the nature of most work, these exposures are expected to be short-term, with little risk and can be mitigated by the measures recommended in Table 15. However, additional measures (most commonly watering, installation of a dust screen) may be required for subprojects to dismantle existing buildings. Particular care should be taken when coming into contact with toxic asbestos dust, which may occur when removing insulation or roofs containing asbestos gaskets. Personnel should wear protective masks. Adverse effects can be prevented by applying good construction

practices and appropriate mitigation measures.

226. ***Noise pollution*** can occur mainly during the operation of equipment and the movement of trucks. Noise levels are expected to not exceed the established limits during project activities. Noise pollution can be mitigated by using recommended measures. Given the specific nature of the project, vibration is not expected to affect human health and structural integrity, as there will be no significant vibration generation actions. Sanitary standards CH 2.2.4/2.1.8.562-96 are used in the Republic of Tajikistan to ensure acceptable noise levels in residential areas. These rules and regulations establish permissible noise parameters for residential and public buildings and residential development of settlements created by external and internal sources, and the noise level should not exceed 55 dB(A) during the day and 45 dB(A) at night.

227. ***Contamination of surface water*****.** Excavation, storage of fuel, storage of hazardous materials will be sources of pollution of river water if the watercourse is nearby. Leakage of fuel, hazardous materials, debris and household waste can lead to chemical contamination. All storage facilities for fuels and lubricants and chemicals (if any) should be located on a sealed basis inside the bundle and enclosed by a fence. The storage area should be located away from watercourse or wetlands. The base and walls of the bundle should be impermeable and have sufficient capacity to hold 110% of the volume of the tank.

228. In the event of an accidental spill, immediate clean-up will be carried out. All cleaning materials should be stored in a safe location at the facility where hazardous waste can be disposed of. The surface water treatment plan should be carefully planned during the feasibility study to meet the waste water quality standard. The sump, neutralization tank and backup tank should be prepared for flooding. This plan is included in the environmental plans for the specific facility.

229. The intake of nutrients from cultivated areas (mainly mineral fertilizers) can lead to water pollution, eutrophication/depletion of dissolved oxygen.

230. ***Water consumption. Water*** management for annual crop production should aim at optimizing crop yields while maintaining the quantity and quality of water resources. To avoid additional pressure on water resources, the following measures are recommended:

- Selection of crops compatible with the availability of water in the area;
- Make maximum use of available rainfall ("rainwater harvesting") where possible by:
- Reduce runoff through techniques such as conservative tillage, terraces and raised ridges that follow the contour of the ground
- Reduced channel seepage losses
- Controlling weeds between rows and keeping them dry
- Avoiding over- and under-irrigation to reduce the likelihood of soil salinization
- Maintenance of boundary vegetation in canals and drainage systems.

231. ***Soil contamination*****.** Leakage of fuel, lubricants, construction debris and cesspools can cause soil contamination. A possible source of soil contamination should not be located near a natural source. Surface runoff from the construction site should be removed. All surface tanks with fuels and lubricants will be equipped above ground and the integrity of their walls will be constantly monitored.

232. ***Asbestos dust contamination*** – asbestos dust produced during the demolition of old roofs of buildings undergoing rehabilitation/repair can pose a serious health risk to people living in homes near or near construction sites.

For such cases, prior to construction work, the contractor will be required to develop a specific Asbestos Management Plan in the template provided in Annex 1. The Asbestos-Containing Materials Management Plan (ASMP) describes and assesses the risk of contractors (and others) encountering asbestos-containing materials (AFMs) at project construction sites during the project implementation phase; and provides a procedure for the prompt and safe handling of any detected AFMs. ESS-3 WB: Resource Efficiency and Pollution Prevention requires that World Bank-funded projects apply pollution prevention and control technologies and health and safety measures that are in line with international best practices, as reflected in international standards such as the World Bank/IFC General Guidelines on Environment, Occupational

Health and Safety Regulations (2007). If national legislation differs from these standards, the borrower must comply with more stringent requirements. The only provision of the Republic of Tajikistan on asbestos, a regional interstate agreement, the Interstate Standard GOST 12871-93, signed by the Republic of Tajikistan, regulates interstate trade and transportation of chrysotile asbestos. However, the procedure provides a clear description of the handling of AFM, so the AFMA follows the World Bank Recommendations

233. The basic principles of the ASMP are (i) prompt and effective action to contain and properly handle the ACM (including safe management and disposal); and (ii) the continuous maintenance of the safety of on-site personnel and the general public. The MSMP is intended to be used by the Contractor, the Regional Project Coordination Centre (RCCP) and the Project Management Centre (PCC) to manage ACM risks for the project as a whole, and by contractors to effectively address any ACM problems they or their workers face. As such, the procedural element of the ASMP is intended to provide simple instructions that can be easily and quickly understood without requiring specialized knowledge or recourse to other sources.

234. ***Depletion of vegetation cover*** – all design work will be carried out within the existing facilities, no significant impact on flora is expected.

235. ***Incidental Finds***– Some of the project cities are located in locations where there is a chance of finding archaeological heritage. During the construction of agro-logistics centres, new laboratories at the boundaries, significant excavations, land movement or other changes in the physical environment are expected to occur, during which physical cultural resources may unexpectedly be discovered. To address this issue, the CAP of all such sub-projects will contain specific provisions in all construction contracts for a "incidental find procedure" that will set out how incidental finds associated with the sub-project will be managed.

236. 6.1.1. Potential Impacts of Emergency Operations for the Distribution of Seeds, Fertilizers and Small Agricultural Machinery

237. Emergency operations to procure and distribute seeds, fertilizers and small agricultural machinery to vulnerable rural households could have the following potential impacts:

238. (a) Handling of mineral fertilizers: Risks associated with the transportation, temporary storage and distribution of mineral fertilizers to the public, including possible contamination of soil and water resources if improperly stored, as well as health risks from the lack of adequate personal protective equipment (PPE) among the personnel carrying out the distribution. Mitigation measures: compliance with the requirements set out in subsection 6.4.2 of this ERR; ensuring that beneficiaries are instructed in the safe handling of fertilizers; distribution in the original packaging labeled in the state language.

239. (b) Handling of treated seeds: Risks of accidental consumption of treated seeds. Mitigation measures: compliance with the requirements of 6.4.1; mandatory colouring of seeds and addition of repellent and/or emetic; outreach to beneficiaries.

240. (c) Use of small agricultural machinery: Risks of injury from the operation of machinery without proper training. Mitigation measures: mandatory training of beneficiaries before handing over equipment; provision of operating instructions in the national language; prohibition of the use of machinery by persons under 18 years of age.

241. (d) Social inclusion: Risks of exclusion of vulnerable groups from the list of beneficiaries. Mitigation measures: transparent selection criteria; participation of local authorities and mahallas in the identification of beneficiaries; monitoring by the AED PMU; functioning of the Grievance Redress Mechanism (GRM).

242. **6.1.2. Potential Impacts of Irrigation System Rehabilitation**

243. Rehabilitating existing irrigation systems and installing energy-efficient pumps can have the following potential impacts:

244. (a) Contamination of water resources from earthworks near watercourses;

245. (b) Generation of construction waste (dismantled pumping units, pipes, construction waste);

246. (c) Temporary restriction of farmers' access to irrigation water during the period of work;

247. (d) Noise exposure during installation/replacement of pumping equipment;

248. (e) Risks to the health and safety of workers when working near water bodies and in confined spaces;

249. (f) Potential impacts on aquatic ecosystems from changes in water use regimes.

250. Mitigation measures: off-season work to minimize the impact on the irrigation cycle; advance notification of beneficiaries about the work schedule; compliance with the requirements of the WRP for each specific facility; disposal of dismantled equipment in accordance with the established procedure; ensuring the availability of materials for the elimination of fuel and lubricants spills; compliance with the requirements of subsection 6.4 of this RERR.

251. **6.1.3. Potential impacts of nutrition interventions**

252. Activities for the procurement and distribution of micronutrients, vitamin supplements and RUTFs may have the following potential impacts:

253. (a) Storage and transportation: The need to comply with the temperature regime and shelf life of micronutrients and RUTFs. Risks of product spoilage if storage conditions are violated. Mitigation measures: procurement through UNICEF in compliance with international quality standards; monitoring storage conditions in MOHSPP warehouses; control of shelf life; ensuring proper storage conditions (temperature, protection from direct sunlight, humidity).

254. (b) Waste management: Generation of packaging waste (blisters, bags, boxes). Mitigation measures: Disposal in accordance with national legislation on production and consumption waste; sorting of waste into recyclable and non-recyclable.

255. (c) Health and safety of beneficiaries: Ensure proper dosing of micronutrients. Mitigation measures: Distribution only through qualified PHC health personnel; training of health care workers; development of guidelines for the correct intake of micronutrients and vitamin supplements; information campaign among beneficiaries.

256. (d) Supply chain: Ensure the security and traceability of the supply chain. Mitigation measures: procurement through UNICEF; maintenance of records of receipt and distribution; independent monitoring (TPM) through a local civil society organization. In the case of direct global procurement of additives by the National Revolving Fund Premix (NRFP) bypassing UNICEF, the NRFP is required to apply environmental and social due diligence procedures for primary suppliers and logistics companies for compliance with the requirements of ESA 2 (Working conditions and supply chains) and ESS 3 (Safe transport of dangerous goods) as provided for in the NOPC SOP.

257. **6.1.4. Features of ALC construction in GBAO**

258. The construction of ALC in GBAO requires taking into account the following specific factors:

259. Seismic hazard: GBAO is located in seismic zone 9 on the MSK-64 scale, which requires the application of reinforced structural solutions and earthquake-resistant design in accordance with national building codes;

260. High-altitude relief: risks of landslides, mudflows, avalanches;

261. Limited transport accessibility: logistical risks in the delivery of building materials and equipment;

262. Remoteness from the main markets and service centers;

263. Special climatic conditions: significant temperature differences, long winter period.

264. Mitigation measures: earthquake-resistant design in accordance with national building codes; ESA taking into account the specific conditions of GBAO; development of a Traffic Management Plan, taking into account mountain roads and load capacity constraints; site selection taking into account the risks of landslides and mudflows; ensuring access to the site in winter.

265. **6.1.5. Potential impacts Integrated Rice and Fish Farming System (RRS)**

266. The introduction of the DF-2 method of mixed rice and fish farming may entail the following potential impacts:

267. (a) Water resources management. Changes in the hydrological regime of rice fields during fish management. Mitigation measures: compliance with water use standards; prevention of water discharge from fields into natural watercourses without prior treatment; monitoring of water levels.

268. (b) Impacts on aquatic ecosystems. Potential impacts on native fish species and aquatic organisms from the release of fish into water bodies. Mitigation measures: use of only certified planting material of native species; prohibition of releases of invasive species; monitoring of aquatic ecosystems near rice paddies.

269. (c) Handling of fish feed and veterinary drugs. Risks of water contamination in case of over-application of feed. Mitigation measures: use of feed in accordance with recommendations; prohibition of the use of antibiotics and hormonal growth promoters; training of beneficiaries.

270. (d) Social inclusion. Ensuring equal access to RIR activities for women and vulnerable groups. Mitigation measures: transparent criteria for the selection of beneficiaries; priority for female-headed households; gender-sensitive training.

The introduction of mixed rice and fish farming is classified as an activity with low environmental risk and is regulated by the SHRP Checklist for Small-Scale Agricultural Activities.

6.2. Impacts on biodiversity

271. It is anticipated that some of the project activities may result in impacts on biodiversity due to the use of chemicals (pesticides and herbicides) and the introduction of a new variety of hybrid seeds. The project will **not** use **GMO** seeds. Pesticides should be managed to avoid their migration to land or aquatic environments outside the site by establishing their use as part of integrated pest management. If the use of pesticides is warranted, spill prevention and control measures consistent with the recommendations applicable to pesticides and other potentially hazardous materials should be followed. Less harmful (non-persistent) pesticides should not be used. Do not apply more pesticides than necessary. Ensure proper handling of pesticides to avoid runoff from contaminated surfaces, etc. Alternative pest control strategies should be preferred, using synthetic chemical pesticides as a last option.

272. If the use of pesticides is warranted, the following measures are recommended:

- Train staff in the use of pesticides;
- Consult the manufacturer's instructions regarding the maximum recommended dosage or treatment, and the application of the minimum effective dose;
- Avoid the use of banned and obsolete pesticides
- Use only pesticides labeled in accordance with international standards and regulations;
- Use certified pesticide application equipment;
- Create untreated buffer zones or strips along water sources, rivers, streams, ponds, lakes, and ditches to protect water resources
- Store pesticides in their original packaging in a designated dry and well-ventilated place;
- Pesticide mixing and transfer should be carried out by trained personnel in designated areas;

- Buy and store pesticides in volumes no more than necessary
- The PSC and BSS should be applied and respected.

6.3 Potential social impacts and risks

273. In general, the project areas represent significantly different regions and are subject to common risks of instability and conflict, which will affect the final results of the project. Thus, the project areas are characterized by: (i) geographical risks - interregional and inter-district risks; (ii) economic risks - high unemployment, especially among young people, and a significant dependence of household income on remittances, which depends on external economic conditions and fluctuations; (iii) social exclusion; and (iv) institutional risks - insufficient customer capacity in the application of the ESS. Social isolation and institutional risks are specific to the "project". As a result, the following issues become relevant in the context of the project:

6.3.1 Impact of resettlement

274. *Restrictions on access*. The second and third components include civil structures, some renovated, and some being renovated and rehabilitated. There will be some social impacts caused by construction during the implementation phase. Construction work in some local infrastructure projects may result in minor restrictions on access to homes, land or other private or public property. Construction and/or rehabilitation may also cause some inconvenience to the public.

275. *Land Alienation*. New construction will necessarily require "land" but will be limited to 2-3 properties. While the project is waiting for the Government to provide land, due diligence must be exercised to ensure that there will be no physical and/or economic displacement as a result. As the location has not yet been determined, the PMU has prepared a Resettlement Policy Framework (RAP) to guide activities in this regard. The PMU defines procedures for: (i) land acquisition (once all technical alternatives have been exhausted), (ii) addressing any residual impacts from land acquisition (i.e., identifying, valuing, and compensating people who suffer economic loss or loss of private property), (iii) monitoring and verifying compliance with policies and procedures, and (iv) grievance mechanisms.

6.3.2 Risks of social exclusion

276. The establishment of a "seed" system ensures not only the development of appropriate farmer-friendly technologies (which include knowledge, skills and management techniques), but also their dissemination throughout the country. The development and dissemination of technologies should be effective and inclusive, covering a wide range of different parts of the country, as well as different sub-sections of the farming community, including marginalized/smallholder farming households, women and other vulnerable groups. Thus, one of the key objectives of the project will be to ensure "inclusion". However, exclusion may occur due to differences in: (i) geography - given the vast area of the farming community and the fact that some of the terrain is mountainous and remote, on the border with Afghanistan, it is likely that some areas may not be covered by the project; (ii) scale of farming - large and wealthy elite farmers may receive preferential treatment; (iii) absorption capacity - the technologies developed may be more convenient for large farmers; and (iv) administrative expediency and economy in reaching out to the "elite" due to the enormous social mediation efforts required to mobilize as well as build the capacity of the vast number of smallholder and marginalized farmers across the country.

277. The risk of exclusion will be largely mitigated through a Stakeholder Engagement Plan (SEP), complemented by a Community Mobilization Plan and an effective Information and Education Campaign (IEP).

278. Poor and vulnerable groups under the project are likely to include farmers from remote areas and women's groups, especially women engaged in seasonal agricultural work, female-headed households, and women farmers, who may find it more difficult to obtain information about the benefits of the project due to limited social norms and social networks. The SEP will include measures to ensure that poor and vulnerable groups have equal opportunities to receive information and benefit from project activities, as well as channels for filing complaints and redress in case of negative impacts. Such activities will include

individualized awareness-raising and information campaigns, including those targeting women and mahalla-level meetings, which can be joined by representatives of communities of all origins and from remote areas, dissemination of information materials through various channels such as media, social media and mahalla leaders, emphasizing the rules and principles of fairness and non-discrimination, for example, with regard to employment opportunities in all training and counselling activities.

6.3.3 Labor risks

279. The project offers small/medium infrastructure for the construction or rehabilitation of gene banks, seed laboratories and agro-logistics centers; therefore, it is expected that most contractors will be from local areas. Most of the workforce is expected to be employed locally, with the exception of a few skilled workers. Labor camps will be small in size and no labor camps are foreseen at this stage.

280. The risk of child labor/forced labor is considered limited because, under national legislation, contractors must comply with the minimum age for employment and negotiated written contracts. However, according to the Labor Code of the Republic of Tajikistan, persons between the ages of 14 and 16 may also be employed with reduced working hours, in work that is not considered hard or dangerous, with parental permission, and outside school hours. Child labor is prohibited for construction work; for agricultural work, farmers may employ their children over 14 years of age on household plots outside of school hours, however, agricultural workers are not considered project workers under the ESS2 definition.

281. The risk of BOT/SC is assessed as moderate, mainly due to the status of national legislation on gender-based violence (NGV), gender norms, and the location of most project activities in rural areas. The SEP will also describe a project-specific grievance mechanism (GRI) that will accept, address and seek to resolve any issues or feedback related to the project, and which will be easily accessible to project-affected parties and local communities, among other stakeholders. In order to ensure the confidentiality and dignity of affected individuals, the ITL will have a dedicated window for SEE/DJ grievances.

282. The PMU AED will prepare Labour Relations Management Procedures (TRTs) that will specify the types of project workers, working conditions and associated work risks, as well as measures to mitigate them. Conditions will also be provided for the training and recruitment of as many workers as possible from the local communities where the activities are held.

6.3.4 Health and safety of workers and the community

283. ***Contractors*** will be required to comply with occupational safety and health regulations, which include, among other things, strict compliance with established safety and health regulations, which depend on the type of work performed, the use of PPE, training activities and monitoring. In addition, all workers must be made aware of the procedures for handling hazardous materials (such as asbestos materials, etc.). Contractors must provide workers with appropriate living conditions: safe water supply, laundry facilities, rest rooms, etc.

284. *For the community* – Inadequate lighting and fencing of construction sites inside settlements can be dangerous for pedestrians and vehicles, especially at night. Increased traffic due to the movement of trucks and vehicles to construction sites can also cause inconvenience to the local population. In addition, some construction/rehabilitation work will cause temporary blocking of household access. Untimely and inefficient solid waste disposal and inadequate sanitation conditions created by construction workers at construction sites and in labor camps can cause environmental pollution and affect the health of the local population.

285. Increased *exposure of farmers and their families to hazardous agrochemicals* can also be considered a significant risk. Exposure to farmers mainly occurs during the preparation and application of pesticide spraying solutions and during the cleaning of spraying equipment. Farmers or their family members who perform manual labour on pesticide-treated areas may also face serious exposure to direct spraying, gravity from neighbouring fields or contact with pesticide residues on crops or soil.

6.4. Mitigation measures

286. *Reducing Environmental Impacts. Annex 4* presents the Environmental and Social Management Matrix, which, along with a summary of the main potential environmental and social impacts, on the health of farmers and communities, proposes mitigation measures. Potential adverse impacts will be mitigated primarily through information dissemination, capacity building, prevention and preventive measures. In this regard, the updated ESP also contains: (a) *safety measures for the handling of treated seeds and fertilizers.* Environmental problems with the distribution of seeds and fertilizers are related to the possibility that the seed may be used for consumption. Seed treated with agrochemicals will be dyed and will contain a repellent and/or emetic to prevent the seed from being used for food. Training (which will be carried out as part of aid packages) should ensure that the local population is informed about the importance of these dyes and repellents in order to avoid ingestion of possibly treated seeds; (b) *reducing potential pest control activities*. These will also include capacity building, information dissemination and public awareness, as well as pest management trainings together with demonstration activities on the most important crops; and, (c) *information dissemination and training activities* on the safe handling of treated seeds, fertilizers and pesticides for the involved actors – farmers, local and district authorities. In addition, the WLRP also provides a curriculum outline *on sustainable land management practices*, including information on the full impact of monoculture on soil fertility, land degradation and crop quality. All proposed trainings aim to minimize the potential impact of the seed and fertilizer packages supplied and the continued use of pesticides, and should ensure that there is no waste as a result of their use, that transport and handling, as well as application, are carried out in a safe and effective manner.

6.4.1. Safety measures for the use and handling of treated seeds

287. *Minimizing the risks of using treated seeds*. While chemically treated seeds have important benefits, they also pose certain risks associated with accidental exposure to the environment and farmers during their improper handling and use. These risks can be minimized by providing appropriate training on the proper use of pesticides for seed treatment. The following guidelines provide basic safety requirements in this regard.

288. *General Notes. Treated* seeds should be handled with care. They should not be GMOs. Product labeling should contain information about their safe handling and use. Seed users should always read the label and follow the instructions exactly. Labeling should also provide the applicator with information about first aid, potential environmental hazards, and their use and proper storage. Users of treated seeds should also strictly follow the personal safety precautions outlined below.

289. *Labeling of treated seeds. Treated* seeds must be labeled with the following information:

- Warning, for example, "Dangerous – keep out of reach of children" or "Poison – handle with caution";
- Type of seeds and processing rate;
- Types of pests that are being controlled;
- Precautions for handling and using treated seeds;
- Disclaimer or warranty;
- Mixing instructions;
- Compatibility notes;
- Antidotes;
- Warning if the substance used in the treatment in the amount remaining with the seeds is harmful to humans or wild animals.
- Emergency procedures, and
- Name, address and telephone number of the responsible person who can be contacted in case of problems

290. In providing this information, the following should be taken into account: (a) the information should be printed in a font size of at least 8 points, indicating that the seeds have been treated; (b) only the common, popular, chemical or abbreviated chemical (generic) and the name of the substance used and the application rate should be used; (c) seeds treated with a toxic substance of "restricted use" should be marked

in red as "poisoned".

291. *Treated seeds. Requirements* for the storage and handling of treated seeds include the following:

- They should be stored in a dry, well-ventilated place, separately from untreated seeds;
- Should never be stored in bulk storage bins, which can also be used to store edible grains;
- Store in special multi-layer (3- or 4-layer) or tightly woven bags. Some polyethylene or foil-lined bags are also good containers for treated seeds;
- Make sure that the seeds are thoroughly dried before placing them in bags, as excess moisture can lead to rapid spoilage of the seeds;
- Clearly label seeds (as described above) to indicate the type of seed dressing;
- Strictly prohibit their use for food, feed or oil purposes;
- Sowing should be carried out with an agronomically acceptable seeding rate;
- The use of superficially treated seeds without incorporation into the soil poses a danger to people and animals and is illegal.
- It is necessary to plan the number of seeds carefully, as the disposal of treated seeds can be a problem. One solution is to plant unwanted seeds and disc them after germination if the harvest is not needed. Otherwise, the treated seeds will have to be disposed of as solid waste.
- Seeder hoppers should be filled in the open air.

292. *Personal safety. Care* must always be exercised when handling treated seeds and remember that exposure to seed treatment pesticides can cause a wide range of acute and chronic toxic reactions in humans. When handling seed treatment pesticides, you should:

- Read and familiarize yourself with the label of each pesticide you use. Make sure these documents are always on hand and refer to them in the event of an accident;
- Avoid inhaling pesticide dust or fumes, always protect your skin and eyes from exposure;
- Use proper protective equipment recommended on the pesticide label. Use safety goggles, rubber gloves, and a rubber apron, even if not indicated on the product label;
- Wash hands thoroughly with soap and water after handling treated seeds, and before eating or smoking;
- In case of infection, immediately remove contaminated clothing and wash the affected areas thoroughly with soap and water;
- When using a large number of seeds, change clothing often enough to avoid the accumulation of pesticide accumulation on it;
- No matter how tired you are, take a shower immediately after work and change all your clothes.
- Wash clothes thoroughly (separately from family clothes) before using them again.
- Personnel distributing treated seeds should be provided with protective clothing such as (a) coveralls, (b) cap, (c) goggles, (d) rubber apron, (e) rubber boots, (f) rubber gloves and (g) a respirator designed to handle the material. A disinfectant shower should be installed in the immediate vicinity of the seed distribution area.
- Seed distribution sites should be isolated and should not operate in close proximity to other personnel or agricultural raw materials that will be used to produce food, feed or oil.
- Do not drain contaminated water into a stream or public sewer, but dump it into a shallow ground pit.

293. Hazards associated with the disposal of unused treated seeds and empty treated seed containers. In order to avoid hazards in these cases, the following rules must be observed:

- Do not reuse empty containers and bags of treated seeds.
- Destroy them and weakly germinating seeds by crushing them and burying them to a depth of at least 50 cm in an isolated place away from water sources.

6.4.2. Safety measures for the use and handling of mineral fertilizers

294. *General remarks. As* in the case of treated seeds, the use of fertilizers can provide important benefits, but at the same time, they carry certain risks associated with accidental impact on the environment and farmers if they are mishandled and used. In order to avoid a negative impact on the environment when using mineral fertilizers, it is necessary to strictly comply with a number of requirements provided for by the current regulatory documents, as well as instructions for handling fertilizers. The rules and procedure for the production, storage, transportation and use of mineral fertilizers are reflected in a relatively small number of documents, and most of them were adopted back in the days of the USSR. The main provisions of these documents regarding environmental and sanitary safety issues are presented in *Appendix 10*. The numbering of articles and paragraphs in each regulatory act is similar to the original document.

295. *Basic requirements. The* use of various mineral fertilizers should be carried out depending on factors such as the type and quality of the soil, the type of crop, the crop rotation system, weather and climatic conditions, methods and timing of their application. To ensure this, the project will develop specific dissemination and training activities (see paragraph 98). At the same time, it is necessary to introduce a number of requirements for the correct handling of fertilizers.

296. Provisions concerning the storage of fertilizers:

- Maintain the volume of fertilizers and materials for soil fertilization at the minimum required level.
- Ensure proper storage security.
- Fertilizers and soil additives should not be stored in contact with the ground surface.
- Storage sites/facilities should be protected from atmospheric influences and runoff from other areas should be excluded.
- Do not store in the immediate vicinity of heat sources such as open flames, steam pipes, radiators, or other combustible materials such as flammable liquids.
- Do not store with urea.
- Do not contaminate fertilizers and soil fertilizing materials with other foreign substances.
- In case of fire, fill the area with water.
- If augers are used to move the material, it is necessary to ensure that all residues in the immediate vicinity are removed.
- Dispose of empty bags appropriately.

297. Provisions concerning the application of fertilizers in the fields:

- The amount of fertilizer should be kept to a minimum and should be kept closed in order to avoid unnecessary exposure to the open air.
- Spreaders and pneumatic seeders left overnight in the field must be closed.
- Close spreaders and pneumatic seeders between jobs.
- Make sure the planter, pneumatic planter and/or fertilizer box is completely emptied at the end of each day. If the planter, pneumatic planter and/or fertilizer box cannot be completely emptied, fill them to capacity before leaving them overnight.
- Do not store dry urea together with dry ammonium nitrate.

Ensuring that the hazards associated with improper handling and application of fertilizers are minimized:

298. Table 14 below provides information on typical hazard scenarios that may arise from the procurement, handling and storage of fertilizers, as well as recommended measures to control potential risks.

Table15: Typical hazard scenarios and recommended measures

Probable hazard scenario	Recommended control strategy
Bottling	• Ensure the safety and compliance of all storage locations and/or premises.

	• Ensure that all fertilizer products can be stored within the selected storage location and/or room. • Provide appropriate equipment and materials to clean up spills.
Transportation and delivery of goods	• Cover any cargo with fertilizers during transportation. • Ensure the delivery of fertilizers on time. • Do not accept containers with fertilizer products that are damaged and/or leaking. • Ensure that any spills that occur during delivery are properly cleaned up.
Dust carried from warehouses and/or facilities	• Store fertilizer products covered and/or sealed. • Immediately clean up spilled liquid. • Keep inventory "in use" at the minimum necessary level. • Personnel responsible for storage facilities and/or facilities should ensure that dust is minimized outside the perimeter.
Storage Rooms – Floors	• Keep swept floor surfaces clean of fertilizer to prevent people and/or vehicles from moving outside the perimeter. • Sweep and dispose of spilled liquid in a timely and proper manner.
Cross-contamination of the product	• Store each fertilizer product in a separate storage container and/or in a separate room within the facility and/or territory.
Product confusion	• Maintain an accurate warehouse manifest/register. • Ensure that products and mixtures are separated at all times. • Ensure that all storage compartments and containers are clearly labeled. • Ensure that all storage, loading and mixing plants and equipment are cleaned of all residues when replacing one product with another. • Do not store the product in improperly printed bags.
Occupational health and safety	• Minimize contact between fertilizer products, people and livestock.
Risk assessment	• It is necessary to conduct a risk assessment when purchasing, storing and handling fertilizer products.
Contact with humans and livestock	• Managers will develop, implement and monitor the effectiveness of procedures for managing hazardous factors. • All persons using fertilizer products must adhere to the University's hazard management procedures, implement safe work practices, and ensure that direct contact with and inhalation of fertilizer dust is minimized. • Supervisors should ensure that staff and students are aware of any state, federal, local, and industry regulations that need to be followed.
Personal protective equipment	• Staff/students must be provided with appropriate PPE when using fertilizer products.
Lack of appropriate safety warning signs and information	• Managers should ensure that appropriate safety warning signs and/or information on the nature of hazards and risk control measures are available.
Poor housekeeping and/or routine maintenance	• All personnel are responsible for implementing good practices to keep warehouses clean and organizing regular routine maintenance of all equipment in use.
Defective and/or unusable machinery and equipment	• Conduct regular inspection and testing of equipment and infrastructure to determine maintenance requirements.
Incorrect or inappropriate product mixing	• Fertilizer mixtures must be prepared using the right raw materials in the appropriate proportions. All products will be loaded into spreaders, etc., in the correct condition to the desired weight.
Lack of training	• Employees will undergo appropriate training.
Lack of relevant records and/or documentation	• All relevant records and documentation should be maintained and maintained, e.g. training records, risk assessments, maintenance schedules, fertilizer mixture recipes, material safety certificate/data sheet, etc.

6.4.3. Mitigating the potential impacts of pest control

299. In general, mitigating the potential impacts of phytosanitary activities relies on a number of measures concerning: (a) strengthening policies and institutions; (b) capacity-building; (c) information dissemination and public awareness; and (d) targeted investments in improving pest management

infrastructure. The activities proposed under this project will focus on capacity-building and information dissemination, training and public awareness, and demonstration activities on integrated pest management. Table 15 provides a specific matrix with proposed activities, expected results and performance indicators.

300. 6.4.5. Safety requirements for the operation of fumigation plants in the ALC

301. Fumigation of fruits and vegetables in the ALC must be carried out in strict accordance with the national plant quarantine rules and the FAO International Code of Conduct on Pesticide Management. To prevent the risks of poisoning of workers and the public, the following mandatory requirements must be met:

302. Qualification of personnel: Only persons who have undergone specialized training and have a certificate for fumigation work by aerosol and gas methods are allowed to work with fumigants.

303. Infrastructure: Fumigation chambers must be sealed, equipped with forced ventilation systems with filtration and gas analyzers to monitor the concentration of the active ingredient (e.g. phosphine) in the air of the working area.

304. Zoning and Access: A buffer zone is established around the fumigation zone. Unauthorized access to the fumigation area is strictly prohibited. The area must be marked with warning signs that read: "DANGER: FUMIGATION/TOXIC GAS".

305. PPE: Personnel should be provided and trained in the use of appropriate PPE: full-face respirators with gas filters of the appropriate class, protective suits and gloves.

306. Emergency Response: Each ALC with a fumigation plant should have a Gas Leak Emergency Response Plan in place, including evacuation, first aid and emergency notification procedures. First aid kits with antidotes (if applicable) should be available.

307. Monitoring: Regular monitoring of air quality at the border of the sanitary protection zone of the ALC to exclude impacts on nearby communities.

6.4.4. Institutional capacity to comply with the new e-CAPs

308. *Insufficient capacity to apply the ESS at the national and local levels* (participatory planning, project management and supervision). Given that the implementing agency and line ministries have limited experience in the application of the ESA, and local authorities and local construction organizations have no experience in the application of the ESA, training workshops will be held on environmental and social procedures related to the project (environmental risk reduction, environmental and social screening, and environmental and social management plans).

Table16: Potential environmental and social impacts and mitigation measures

№	Project components and activities	Description of the effect	Degree of impact viy	Expected environmental and social risks and impacts	Priority before mitigation	Mitigation measures	Priority after mitigation
COMPONENT 1: IMPROVEMENT OF SYSTEMS RELATED TO SEED PRODUCTION, PRODUCTION OF SEEDLINGS AND PLANTING MATERIAL							
Project Implementation/Construction Phase							
1	Subcomponent 1.1 Regulatory Framework	No environmental impact Ineffective and unsystematic stakeholder engagement	-	Limited outreach of non-State actors in IEC campaigns	Moderate	A stakeholder engagement plan will be developed, implemented and presented in reports.	Minor
2	Subcomponent 1.2 Research Construction works, such as the construction of new and/or rehabilitation of existing office and laboratory buildings, the development and rehabilitation of research infrastructure, e.g. irrigation facilities, greenhouses, slatted houses, etc.	Impacts from felling/clearing trees and other vegetation	Weak	Trees and vegetation on the site	Moderate	Tree felling will be carried out in accordance with the approved project and only after obtaining permission. Tree felling will be excluded as much as possible, and damage to vegetation will be minimized.	Minor
		Impacts on historical and archaeological sites, such as damage to relics and artifacts during work	Weak	Archaeological Artifacts and Cultural Heritage Sites	Weak	The contractor will instruct the working personnel that in case of accidental discovery of relics, they must immediately stop any work in this place and immediately report the find to their supervisor.	Minor
		Temporary destruction of existing roads, paths and entrances to the settlement	Weak	Residents and owners of commercial/entrepreneurial organizations in the surrounding areas	Weak	Pedestrian access to damaged facilities and access roads will be maintained. Particular attention will be paid to ensuring safety on roads and paths used by local residents. The contractor will have to immediately restore the excavated areas and all damaged sections of roads and paths.	Minor

№	Project components and activities	Description of the effect	Degree of impact viy	Expected environmental and social risks and impacts	Priority before mitigation	Mitigation measures	Priority after mitigation
		Air pollution with dust (10 μm and less) and emissions into the atmosphere as a result of earthworks and vehicle traffic, creating inconvenience and health risks for residents of nearby settlements.	Moderate	Residents and owners of commercial/entrepreneurial organizations in the surrounding areas	Moderate	• The contractor will be required to cover the materials with tarpaulins or other suitable materials during transportation to avoid spillage of materials. • Dirt roads, especially roads near residential buildings, commercial and agricultural areas, will be moistened in dry and dusty weather. • Speed limits will be introduced for construction machines. • Construction equipment and vehicles will be regularly serviced to control air emissions while the vehicles are running.	**Secondary**
		Noise and vibration from the operation of construction equipment that produces excessive noise, creating inconvenience for the population.	Weak	Workers, residents and owners of commercial/entrepreneurial organizations in the surrounding areas	Moderate	• Construction work, especially the operation of equipment that generates noise, will be limited during the daytime. • Noise reduction devices will be installed on the equipment that creates noise. • Drivers will need to minimize the use of horns and comply with the speed limit.	Minor
		Contamination of soil and nearby watercourses can result from the use of hazardous materials. Improper handling, storage or use of hazardous materials poses a significant risk to the health of workers and residents of nearby	Moderate	Working and nearby settlements, aquatic and terrestrial ecosystems	Essential	• Ensure safe storage of fuel, other hazardous substances in accordance with national and local regulations to prevent soil and water contamination. • Fuel storage tanks must be on an impermeable surface with an embankment to contain spills, the embankment must have a retention capacity of 110% of the capacity of	**Secondary**

№	Project components and activities	Description of the effect	Degree of impact viy	Expected environmental and social risks and impacts	Priority before mitigation	Mitigation measures	Priority after mitigation
		communities;				the tank. Fuel tanks, etc., must not be located within 50 m of the watercourse. • Ensure that all storage containers are in good condition and properly labeled; • Used oil and other residual toxic and hazardous materials must be disposed of at an authorized facility outside the facility; • Ensure that spill response materials (e.g., absorbent pads, etc.) specifically designed for petroleum products and other hazardous substances are available in storage areas for such materials; Spills, if any, will be cleaned up promptly with the utmost care to leave no residue; Spilled waste will be disposed of in approved landfills.	
		Generation of construction waste, such as soil from a pit	Weak	Land in the project area	Weak	• The contractor must develop and implement a Waste Control and Disposal Plan. • In accordance with the Development Plan of the facility, the excess of the material excavated during the construction, taken out of the pit, will be used as material for backfilling low-lying areas.	Minor

№	Project components and activities	Description of the effect	Degree of impact viy	Expected environmental and social risks and impacts	Priority before mitigation	Mitigation measures	Priority after mitigation
		During construction, the generation of construction waste, such as solid waste, inert construction waste, will lead to pollution of the land and water bodies into which water flows.	Weak	Land and any nearby body of water (drainage channels). Exceeding local capacity to treat or dispose of such waste.	Weak	• Appropriate containers or areas will be provided for the separation of construction waste. • Storage of all hazardous materials, including fuel, will be safe and controlled. • Recyclable construction waste such as wood, steel and scaffolding will be reused or sold to second-hand stores. • Solid waste will be collected and disposed of at an approved landfill in the city.	Minor
		Impacts on public health and safety, such as the risk of accidents to nearby communities as a result of vehicles passing through areas adjacent to residential buildings in the vicinity of the facility.	Weak	Local population	Moderate	• The contractor must develop a Traffic Management Plan for the period of construction and operation. • Signs and corresponding speed limits. • Oblige suppliers to keep vehicles carrying construction materials in safe working order, to ensure the safety of goods and to cover all goods with uncontrolled materials (e.g. excavated soil and sand) with tarpaulins. • All drivers and machinists behave responsibly.	Minor

		2019 coronavirus outbreak	Essential	Construction workers, contractors, suppliers	Essential	• Check the medical examination of each of the workers before entering the facility and conduct a briefing before starting work to discuss the issues of coronavirus infection in 2019. • Appoint a coordinator to implement and monitor preventive measures (allocate medical personnel). • Restrict entry for all visitors during the epidemic. • If an employee or any other person feels unwell, they should stay at home. • Measure the temperature of all personnel and ensure that they wash their hands before entering the construction site. • At the construction site, all people must: o Avoid shaking hands, hugging, and refusing any other forms of close contact o Always maintain a minimum distance of 2 meters o Do not touch your face without washing your hands • The contractor shall provide sufficient liquid soap, alcohol-based gel, hand washing facilities, disposable towels and tissues; closed containers or bags for disposable towels and tissues; masks, disposable gloves and goggles; remote or tape thermometers; and equipped handwashing areas at various locations in the facility.	Weak

№	Project components and activities	Description of the effect	Degree of impact viy	Expected environmental and social risks and impacts	Priority before mitigation	Mitigation measures	Priority after mitigation
		Impact on public health and safety in the event of access and intrusion by unauthorized personnel.	Moderate	Local population	Essential	• Watchmen/security officers will be hired to protect the facilities around the clock. This will minimize safety risks to the public.	Not essential
		Hazards related to occupational health and safety in the operation and use of heavy equipment; associated with refueling; associated with traffic accidents	Moderate	Construction workers, contractors, suppliers	Moderate	• The contractor will need to implement the Construction Health and Safety Plan in accordance with the World Bank's CEE GTBT. • Management (http://www.ifc. org/ehs guidelines) as a minimum standard. The contractor will designate a TPTB CEE Officer to ensure the implementation of the plan. • Workers will be provided with safe working conditions, including introductory safety briefings, protective equipment appropriate to the work they perform, medical equipment and first aid supplies provided together with a qualified first aid specialist.	Minor

№	Project components and activities	Description of the effect	Degree of impact viy	Expected environmental and social risks and impacts	Priority before mitigation	Mitigation measures	Priority after mitigation
		Work-related risks, including child/forced labour, labour inflow, EPA/MD	Weak/Moderate	Project Workers and Communities	Weak	• All contractors will be required to comply with the PRTO. • All construction contracts will include standard Codes of Conduct that provide for measures to prevent BOTs/CDs. • Contractors will sign written employment agreements with all contract workers, including a Code of Conduct that will become part of their employment contracts.	Not essential
		Operation phase					
		Increased exposure to hazardous agrochemicals during the preparation and application of pesticide solutions, as well as during the cleaning of spraying equipment.	Essential	Farmers or their families who do manual labour on pesticide-treated plots may also be at serious risk of exposure through direct spraying, transfer from neighbouring fields, or contact with pesticide residues on crops or soil.	Essential	A SCOP acceptable to the World Bank, which should be prepared, agreed upon and implemented during the implementation of the project, will address these issues.	Weak

№	Project components and activities	Description of the effect	Degree of impact viy	Expected environmental and social risks and impacts	Priority before mitigation	Mitigation measures	Priority after mitigation
		Insufficient absorptive capacity among the beneficiaries of the project, as large farms are in a more advantageous position.	Essential	Social exclusion	Essential	The technologies developed will be more beneficial to a wide range of beneficiaries/farmers.	Weak
	Equipment (both new and existing) premises.	Packaging waste	Moderate	Local population	Essential	• Sorting of waste into recyclable and non-recyclable; • Recyclable waste must be transferred/sold to relevant organizations; • Non-recyclable waste is subject to removal to city landfills; • Do not allow waste to be stored outside the territory of the facility; • Ensure timely disposal of all waste (within 1 day).	Weak

№	Project components and activities	Description of the effect	Degree of impact viy	Expected environmental and social risks and impacts	Priority before mitigation	Mitigation measures	Priority after mitigation
	Subcomponent 1.3 Production of Categories and Reproduction (i) construction work, such as the construction and/or rehabilitation of warehouses, office and laboratory buildings, greenhouses, irrigation and other structures (ii) procurement of office furniture, field and laboratory equipment, vehicles and agricultural machinery (iii) Consultancy services (iv) capacity building and capacity development of technicians as well as other support staff through participation in tailor-made training	Same as for Component 1.2					
		Packaging waste	Weak	Local population	Weak	• Sorting of waste into recyclable and non-recyclable; • Recyclable waste must be transferred/sold to relevant organizations; • Non-recyclable waste is subject to removal to city landfills; • Do not allow waste to be stored outside the territory of the facility; • Ensure that all waste is disposed of on time (within 1 day)	Minor
		No environmental impact					

№	Project components and activities	Description of the effect	Degree of impact viy	Expected environmental and social risks and impacts	Priority before mitigation	Mitigation measures	Priority after mitigation
		The purchase of seeds and planting material can lead to the entry of alien invasive species	Weak	Local biodiversity	Moderate	Purchase from certified suppliers Acquisition of locally adapted and climate-tolerant varieties Quarantine of planting materials	
	Subcomponent 1.4 Quality Assurance (i) construction work, such as the construction and/or rehabilitation of office and laboratory buildings, greenhouses, irrigation and other structures; (ii) procurement of office furniture, field, laboratory equipment, information technology and related equipment, agricultural machinery and vehicles, as well as inputs required for laboratory operations, and other quality assurance activities and activities (iii) Consultancy services (iv) capacity building and capacity development of technicians as well as other support staff through participation in tailor-made training (both short-term and long-term), workshops and conferences.	Same as for Component 1.2					

№	Project components and activities	Description of the effect	Degree of impact viy	Expected environmental and social risks and impacts	Priority before mitigation	Mitigation measures	Priority after mitigation
		Packaging waste	Weak	Local population	Moderate	• Sorting of waste into recyclable and non-recyclable; • Recyclable waste must be transferred/sold to relevant organizations; • Non-recyclable waste is subject to removal to city landfills; • Do not allow waste to be stored outside the territory of the facility; • Ensure timely disposal of all waste (within 1 day).	Weak
		No environmental impact					
		No environmental impact					
COMPONENT 2: SUPPORTING INVESTMENTS IN AGRO-LOGISTICS CENTRES TO IMPROVE VALUE CHAINS IN THE HORTICULTURE SECTOR							
	Subcomponent 2.1: Support to the development and operation of ALC (i) technical assistance in the	Same as for Component 1.2					
		No environmental impact					

№	Project components and activities	Description of the effect	Degree of impact viy	Expected environmental and social risks and impacts	Priority before mitigation	Mitigation measures	Priority after mitigation
	preparation of feasibility studies, business plans, environmental and social impact assessments, as well as detailed designs and construction supervision plans for all three properties; (ii) Civil works for the construction of three facilities; and (iii) equipment for operational activities at the three sites. (iiii) Operation of fumigation plants in the ALC	Packaging waste	Weak	Local population	Essential	• Sorting of waste into recyclable and non-recyclable; • Recyclable waste must be transferred/sold to relevant organizations; • Non-recyclable waste is subject to removal to city landfills; • Do not allow waste to be stored outside the territory of the facility; • Ensure timely disposal of all waste (within 1 day).	Minor
		Consequences of resettlement	Moderate	Small-scale land alienation and/or temporary land alienation	Moderate	• Site-specific RAPs acceptable to the World Bank will be prepared, agreed upon and implemented by the PMU/RAP in accordance with the RAP.	Weak
		Generation of organic waste and how it will be treated;	Moderate		Essential	• Generation of organic waste and how it will be treated;	Weak
		Release of toxic gases, risk of acute poisoning of personnel and the public	Essential	Health risks to workers (ESS 2) and communities (ESS 4) from leakage of chambers, gas leaks, improper handling of fumigants.	Essential	• Use of only approved fumigants and certified equipment. Fumigation is carried out only by trained and certified personnel. Ensuring the tightness of fumigation chambers and the availability of gas analysis systems. Installation of warning signs and restriction of access to the fumigation area. Provision of PPE (respirators, protective suits) to employees.	Weak

№	Project components and activities	Description of the effect	Degree of impact viy	Expected environmental and social risks and impacts	Priority before mitigation	Mitigation measures	Priority after mitigation
		Ensure that ozone-depleting substances are not used for refrigeration units under construction;	Moderate		Moderate	• Ensure that ozone-depleting substances are not used for refrigeration units under construction;	Weak
		Water and wastewater management during facility operation.	Moderate		Weak	• Water and wastewater management during facility operation.	Weak
		Generation of household, organic waste	Moderate	Soil, water and air pollution	Moderate	• The contractor needs to develop a Waste Management Plan and perform: • Efficient disposal of materials and debris in designated waste disposal areas.	

№	Project components and activities	Description of the effect	Degree of impact viy	Expected environmental and social risks and impacts	Priority before mitigation	Mitigation measures	Priority after mitigation
	Sub-component 2.2: Capacity-building in the operation and management of ALCs and awareness-raising	Social exclusion, as different groups may be excluded from the activities/outputs/benefits of the project due to their remoteness, lack of adequate knowledge and skills to access and use improved technologies, lack of available seed products and services. No environmental impact.	Essential	Exclusion of a variety of small and medium-sized farms and individual farmers, as well as other vulnerable populations	Essential	Much will be addressed through a well-designed SEP, complemented by a Community Mobilization Plan and an effective IEC campaign. The SEP will include measures to ensure that disadvantaged and vulnerable populations have equal opportunities to receive information and benefits from project activities, as well as have channels to file complaints and redress in case of negative impacts. Such activities will include specialized awareness and information campaigns, including for women, as well as mahalla-level meetings attended by community members from all walks of life and remote areas.	Weak
COMPONENT 3: STRENGTHENING THE CAPACITY OF STATE INSTITUTIONS TO PREVENT AND MANAGE CRISIS SITUATIONS							
	Subcomponent 3.1: Real-time monitoring of agricultural production, land use and agrometeorology	No environmental impact					
	Subcomponent 3.2: Agrometeorological Information Services for Farmers	No environmental impact					
	Sub-component 3.3: Improving soil fertility	No environmental impact					

№	Project components and activities	Description of the effect	Degree of impact viy	Expected environmental and social risks and impacts	Priority before mitigation	Mitigation measures	Priority after mitigation
	Sub-component 3.4: Plant protection and locust control	Consumption of crops with high pesticide residues. Increased health care costs; Loss of working hours; Reduced family income.	Moderate	Pesticides can have harmful effects on micro-organisms, which can affect plant growth. When pesticide residues accumulate in large concentrations, toxic effects occur. Pesticide persistence in the soil and movement into water streams can also lead to their release into food and pose a threat to human health.	Essential	• If the activity will involve the use of chemicals, RAPs should be included in the ERR. • Biological pest control methods reduce the use of pesticides and thereby minimize environmental pollution. • Alternative pest management strategies should be preferred, and the use of synthetic chemical pesticides should be considered as a last resort. Pesticide application If the use of pesticides is justified, the following measures are recommended: • Train staff in the use of pesticides; • Study the manufacturer's instructions for the maximum recommended dosage or treatment method and apply the minimum effective dose; • Eliminate the use of banned and obsolete pesticides; • Use only pesticides labeled in accordance with international standards and regulations; • Use certified equipment for the application;	**Weak**

№	Project components and activities	Description of the effect	Degree of impact viy	Expected environmental and social risks and impacts	Priority before mitigation	Mitigation measures	Priority after mitigation
						• Create untreated buffer zones or strips along water sources, rivers, streams, ponds, lakes, and ditches to help protect water resources; • - Store pesticides in their original packaging, in a specially designated, dry and well-ventilated place; • Mixing and transfer of pesticides should be carried out by trained personnel in designated areas; - Purchase and store no more pesticides than necessary.	
COMPONENT 4: PROJECT MANAGEMENT AND COORDINATION (Implementation Phase)							
	The objective of this component is to support project management, coordination, M&E, citizen participation, as well as the implementation of the EHR tools and fiduciary aspects of the project.	Insufficient capacity to apply e-SSs at the national and local levels.	Essential	The Implementation Agency, line ministries, local authorities and local contractors have limited experience in implementing ESAs.	Essential	• A Training Plan for Capacity Building in Environmental Risk Management and Social Issues will be developed and implemented.	Weak

VII. RULES AND PROCEDURES FOR ENVIRONMENTAL AND SOCIAL ASSESSMENT

309. In accordance with the EO MOIA, each project must comply with the National Environmental and Social Regulatory Framework and the World Bank Environmental and Social Standards (ESOs). The following paragraph provides guidance on the actions required to conduct environmental and social assessment in accordance with national legislation and the ESO EOs. The following tools can be used to conduct environmental and social assessment:

310. **An Environmental and Social Impact Assessment (ESA)** is a tool for identifying and assessing the potential environmental and social impacts of a proposed project, evaluating alternatives and developing appropriate mitigation, management and monitoring measures. In some cases, for small-scale projects, a partial ES may be carried out to assess their location in relation to protected areas or the availability of habitats. An indicative ESA plan is provided in Annex 2.

311. **An Environmental and Social Mangement Plan (ESMP)** is a document that describes in detail (a) the measures to be taken during the implementation and operation of a project to eliminate or compensate for adverse environmental and social impacts or to reduce them to an acceptable level; and (b) the actions required to implement these measures. An example of an ESMP is provided in Annex 3.

312. **The WRP checklist** is a simplified version of the WRP and is typically used for construction and renovation with less impacts. An example of the WRP is presented in Annex 4.

313. **A pest management plan (PMP)** is a specific plan that applies to activities related to the use, handling and storage of pesticides and herbicides in a manner that avoids/minimizes impacts on human health and the environment. An example of ASP is presented in Annex 5.

314. **Organic waste management procedures** related to agricultural production, transportation and storage of organic waste.

315. The following tools can also be used to carry out environmental and social assessment of the activities added under the additional financing:

316. **The Irrigation Rehabilitation Checklist** is a simplified version of the Waterways Checklist for pumping unit replacement, canal repairs and installation of energy-efficient equipment, and well drilling. The checklist includes verification: (a) proximity to watercourses and water bodies; (b) the presence of protected areas in the work area; (c) the potential impact on downstream water users; (d) the management of dismantled equipment and construction waste; (e) the risks of temporary restriction of access to irrigation water; (f) the need for work in the vicinity of settlements.

317. **Checklist for Emergency Agrochemical Distribution Operations** – verifying: (a) that fertilizers and seeds comply with national quality standards and requirements; (b) that labels and instructions for safe handling are available in the national language; (c) that PPE is provided to distribution personnel; (d) that beneficiaries are instructed in the safe handling of fertilizers and seeds; (e) that there is a plan for the disposal of unused materials and empty packaging; (f) that subsections 6.4.1 and 6.4.2 of this ESMF are met.

318. **Checklist for Micronutrient Distribution and RUTF Activities – verifying:** (a) that products comply with international quality standards; (b) that they comply with storage and transport conditions; (c) That shelf life is monitored; (d) That instructions for use are available in the national language; (e) That medical personnel who distribute are available; (f) That there is an accounting and reporting mechanism; (g) That independent monitoring (TPM) is in place.

319. In addition to these EO instruments, national environmental documentation should be prepared as part of the national environmental impact assessment. The content of the national environmental documentation is presented in the following paragraphs.

7.1. Environmental assessment procedure

7.1.1. Main Stages of the National Operating Procedure

320. ***Basic laws on EO.*** There are two laws in the country that define all aspects of environmental activities: (a) *the Law of the Republic of Tajikistan "On Environmental Protection"*; and (b) the *Law of the Republic of Tajikistan "On Environmental Expertise"* and (c) *the Law of the Republic of Tajikistan "On Environmental Impact Assessment"*. Chapter V, Articles 35-39 *of the Law on Environmental Protection* (2011), introduces the concept of state environmental expertise (literally, state environmental "expertise" – SEER), the purpose of which is to study the compliance of the proposed activities and projects with the requirements of legislation and standards in the field of environmental protection and environmental safety of society. These laws provide for the mandatory intersectoral nature of the SEER, which must be scientifically substantiated, comprehensive and objective and lead to conclusions in accordance with the law. The following activities and projects are subject to State environmental expertise: (a) Draft State programmes, pre-planning, pre-project and project documentation for economic development; (b) Regional and sectoral development programmes; (c) Territorial and urban planning, development and design; (d) Environmental programmes and projects; (e) Construction and reconstruction of various types of facilities, regardless of their form of ownership; (f) Draft standards for the quality of the environment and other regulatory, technological and methodological documentation governing economic activity; (g) Operating enterprises and economic entities, etc. The laws provide that all types of economic and other activities must be carried out in accordance with the environmental standards and norms in force and have sufficient measures to protect the environment and mitigate the consequences in place to prevent and prevent pollution and improve the quality of the environment. Before decisions are made on the location, construction or reconstruction of facilities, regardless of the form of ownership, an expert examination must be carried out to analyse the short-term and long-term environmental, genetic, economic and demographic impacts and consequences. In case of violation of these requirements, construction will be stopped until the necessary modifications are made as prescribed by the Environmental Protection Committee and/or other authorized control bodies such as sanitary, geological and public safety authorities.

321. *Environmental Impact Assessment. An* Environmental Impact Assessment (EIA) study is a component of the State Environmental Impact Assessment, as specified in the 2011 amendments to the Law on Environmental Protection. In 2012, a new Law of the Republic of Tajikistan "On Environmental Expertise" was adopted. In pursuance of this law, the Government subsequently adopted the following:

- Procedure for Environmental Impact Assessment (adopted by the Decree of the Government of the Republic of Tajikistan No532 dated 01.11.2018): Methodological recommendations on the composition, procedure for the development, coordination and approval of design and estimate documentation for the construction of facilities, buildings and structures, and the heads of EIA, SEE and FS;
- List of facilities and activities for which the preparation of environmental impact assessment documentation is mandatory (approved by the Decree of the Government of the Republic of Tajikistan No532 dated 01.11.2018). This list is very comprehensive: it contains 180 types of activities grouped into four categories of environmental impact: from A – "high risk" to D – "local impact"). If the facility/activity is not included in this list, then it is not required to undergo either EIA or SEE.

322. The project initiator is responsible for conducting the EIA. The EIA Procedure (Government Decree No 532 of 2018) establishes general requirements for the content of EIA documentation. The Committee for Environmental Protection under the Government of Tajikistan (CEP) and its local divisions are responsible for conducting state environmental expertise for all investment projects. In addition, according to the Law of the Republic of Tajikistan "On State Environmental Expertise" of 2012, all construction work, including restoration, must be assessed for environmental impact, and proposed mitigation measures must be considered and monitored by the CEP. The Law of the Republic of Tajikistan "On Environmental Expertise" and "Procedure for Conducting Environmental Impact Assessment" of 2013 establishes the principles for conducting EIA in the Republic of Tajikistan.

323. Along with a detailed description of the project, the EIA study is the basis for obtaining an environmental permit and must be submitted to the Committee. As a rule, the Committee prepares the

project expertise within one month. All units that may be involved in the project take part in the preparation of the expertise. On the basis of this expertise, the permit is issued, not issued or issued with requirements and obligations that must be met by the company during construction and/or during operation. If the Committee concludes that an environmental permit cannot be issued, for example, due to exceeding limit values or insufficient mitigation of other environmental aspects, the developer can modify his project and submit the impact assessment again.

324. *Types of environmental expertise.* According to the Law of the Republic of Tajikistan "On Environmental Expertise" of 2011, environmental expertise is intended to prevent negative impact on the environment as a result of proposed activities, to predict the impact of activities that are not necessarily considered harmful to the environment, and to create a database on the state of the environment and knowledge of human impact on the environment. This Law and the Law on Environmental Protection provide for two types of environmental expertise – state environmental expertise and public environmental expertise, which are not given equal importance. The approval must be issued within 30 days if the project developer does not agree to the extension of the period, and remains valid for two years if the decision is positive. For very complex projects, the period for consideration and approval may be extended to 60 days. In accordance with the SEE Act, a public environmental review of economic or other activities that may have a negative impact on the environment of the population living in the relevant territory may be carried out by any public organization and citizen. They have the right to submit proposals to the responsible state bodies on environmental issues related to the implementation of the proposed activity; to receive information from the relevant responsible bodies on the results of the state environmental review carried out. A public environmental expert review shall be carried out at the time of state registration of an application of a public organization. Registration may be carried out by local executive authorities (within 7 days) at the place where the expert examination is planned to be carried out.

325. *Categories of expertise*. The Laws of the Republic of Tajikistan "On Environmental Protection" and "On EE2" provide that the Government approves a list of activities for which a full environmental impact assessment is mandatory. The 2018 list contains 180 types of activities grouped into four categories of environmental impact (from (A) – "high risk" to (D "local impact"). The current system of environmental impact assessment does not provide for either a preliminary assessment of the project to decide on the need for EIA (screening), or the definition of the scope of issues covered and the content of EIA materials as specific procedural steps. The list of facilities and activities for which the development of EIA materials is required is very detailed and, in the opinion of state authorities, for this reason, there is no need to procedurally consider the issue of conducting EIA in each specific case.

326. *Administrative framework for EIA. The* Law of the Republic of Tajikistan "On Environmental Protection" states that the SEE must be carried out by the CEP, which is designated as the duly authorized state body for environmental protection. It has a comprehensive mandate, including policy development and inspections. The CEP has divisions at the regional, city and district (district) levels in the form of Environmental Protection Departments (ESS) within the hukumats (local authorities) in each city or district.

327. *Public participation.* Article 12 of the Law of the Republic of Tajikistan "On Environmental Protection" proclaims the right of citizens to live in a favorable environment and to be protected from negative impacts on the environment. Citizens also have the right to environmental information (Article 13), as well as to participate in the development, adoption and implementation of decisions related to environmental impact (Article 13). The latter is ensured through public discussion of draft environmentally significant decisions and public environmental expertise. Public representative bodies are obliged to take into account the comments and suggestions of citizens. The Law of the Republic of Tajikistan "On EE" also grants citizens the right to conduct a public environmental assessment (Article 7). On July 17, 2001, the Republic of Tajikistan acceded to the 1998 Aarhus Convention, the provisions of which take precedence over domestic legislation, which also provides for the right to conduct public EE.

328. In the Republic of Tajikistan, disagreements are resolved through the mechanism of consideration of complaints by jamoats (hukumats) or recourse to the courts. A grievance redress mechanism (GRM) capable of receiving and facilitating the resolution of problems and complaints of affected persons related to the project is necessary as an official means of identifying and resolving problems and complaints by the PMU.

329. *Environmental regulations and standards. Standards* are set for air and water pollution, noise, vibration, magnetic fields and other physical factors, as well as residual traces of chemicals and biologically harmful microbes in food. Exceeding thresholds is subject to administrative measures, including financial sanctions. Environmental quality standards are set by several ministries, each responsible for its own area of responsibility. For example, permissible levels of noise, vibration, magnetic fields and other physical factors are set by the Ministry of Health and Social Protection of the Population.

330. *Implementation and compliance with legislation*. A number of legislative acts establish liability for violation of environmental legislation, which can be enforced by several state bodies. In particular, the Code of Administrative Offenses of 2010 establishes administrative liability for organizations, their officials and individuals for a range of violations - from negligent attitude to land to violation of water use or water protection rules, or non-compliance with state environmental expertise. Administrative sanctions for violations related to environmental protection can be imposed by administrative commissions of hukumats, courts, CEP inspectors, veterinary inspectors of the Ministry of Agriculture, and the State Committee for Land Management and Geodesy. The most common administrative punishment is a fine of up to 10 minimum monthly wages for individuals and up to 15 minimum salaries for officials of organizations. The Criminal Code of 1998 covers crimes against environmental safety and the environment, such as violation of environmental safety at work, poaching and damage to land, violation of the rules for the protection and use of underground resources. The maximum fine is up to 2000 minimum monthly salaries, and the maximum punishment is up to eight years in prison.

331. In case of detection of violations of environmental legislation, the CEP bodies apply penalties in accordance with the following articles of the Code of Administrative Offenses of the Republic of Tajikistan. Namely:

- Article 223. Violation of standards, rules, norms, instructions and other environmental requirements for environmental protection and rational use of natural resources;
- Article 224. Emission (discharge) of pollutants into the environment with or without a permit, disposal of waste, physical and other harmful effects;
- Article 232. Violation of the requirements of environmental protection during the transportation, utilization, use, placement (discharge) of industrial, domestic and other wastes into the environment.

332. Fines can only be witnessed by local CEP authorities

7.2. Procedures of social assessment

333. Social assessment is a mandatory procedure to identify possible involuntary resettlement in accordance with the World Bank's ESS 5. The project implementing agency will conduct a social assessment for each proposed subproject

334. Social assessment is one of the key steps in determining further resettlement planning in projects. Social assessment serves to keep the review process simple and concise. A version of the social assessment form is provided in Annex 7. Specific questions for each project activity may be added as necessary by external consultants and the PMU's Social Development Specialist. A list of project activities that may potentially have resettlement issues will then be subjected to a comprehensive process of information and consultation with potentially affected communities, and the results of this process will be documented for each sub-project.

335. The list and results of the consultative process for each site/project included in the list will be sent to the relevant implementing agencies authorized to confirm, approve, disapprove, forward for further consultation and/or make a final decision on each proposed site/project. Conducting the selection process in this way is intended to ensure the integrity and transparency necessary for all stakeholders to have confidence in the process.

336. For project activities that do not have any resettlement problems and do not require ESA 5, the provisions of the APP/social provisions of the EHR are not applied, but the Environmental Orientation of the Environment and Social Framework Document (EHRN) is used as a reference.

337. The impact assessment and categorization of the impact on involuntary displacement will be initiated by the PMU, either with the assistance of its own social specialist and other relevant staff or, in the absence of such experts, with the assistance of external consultants. The social assessment report will be prepared by the PMU's consultant or social development specialist and reviewed by the project agency's designee and the PMU Director for approval. The Social Development Specialist and the PMU Director will finalize the results of the social assessment and confirm the need to develop a Resettlement Action Plan for the proposed sub-project as described in the project's SPP.

338. A resettlement action plan (RAP) is a resettlement tool (document) that must be prepared when identifying the locations of a sub-project. The RAP contains specific and legally binding requirements that must be met for resettlement and compensation to affected parties before the implementation of a project activity with a negative impact can be commenced.

VIII. INSTITUTIONAL ARRANGEMENTS AND CAPACITIES FOR THE IMPLEMENTATION OF THE AREPS

8.1. Project Coordination

339. The implementing agency for the project is the Ministry of Agriculture of the Republic of Tajikistan (MoA). The MoA will have overall responsibility for coordinating all aspects of the project, including the input of the various relevant ministries and agencies involved in the implementation of the project. The main responsibilities of the MoA will include project oversight, coordination, planning, technical support, financial management, procurement support, monitoring and evaluation. The MoA will be responsible for authorizing and verifying all project operations and will work closely with the World Bank mission team during the implementation of the project. In order to fulfill its responsibilities, the MoA will use the institutional arrangements established for the implementation of the project, as well as establish other structures as deemed necessary.

340. **Project Steering Committee (PSC). As** with the PCA, the project will be overseen and strategically directed by the RCC. This is important as a number of institutions are involved in the implementation of the project, including those that were not part of the RCC. The RCC will ensure coordination and effective and enhanced implementation of the project. In this regard, the project will make use of the Project Steering Committee (PSC) established for the RCC, with additional members if deemed necessary, through the involvement of the institutions involved in the implementation of the project.

341. The RCP, chaired by the Minister of Agriculture, will provide strategic direction for the implementation of the project, ensure coordination, and facilitate the identification and promotion of key issues that need to be brought to the attention of the Government. It has the following broad responsibilities: (i) to provide policy guidelines and overall oversight and strategic guidance; (ii) to review the progress of the project towards achieving the EDC; (iii) to review and approve the annual work plans and budgets (APRs) submitted to the PMU; (iv) to review and approve the annual report on the results of the project prepared by the PMU and to oversee the implementation of corrective actions; and (v) to ensure inter-agency coordination, harmonization and alignment among donors. The RCP will meet biennially, focusing on reviewing and approving annual work plans and budgets, and monitoring the effectiveness of the project through annual and semi-annual reports. The membership, terms of reference, roles and responsibilities, frequency of meetings, and working methods of the PSC will be detailed in the Project Implementation Manual (BPR).

342. **Project Management Center (). The** MoA and PMC will be supported by the PMU. The PMU will be responsible for project management and coordination, including the day-to-day implementation of the project, using existing staff for this purpose. The AED PMU will be staffed to address issues related to the expanded scope of the project. Additional staff may be recruited as needed for the successful implementation/coordination of the project. In addition to the PMU in Dushanbe, two Regional Project Offices (RPOs) will be established, in particular one in the north of the country (Sughd region) and one in the south of the country (Khatlon region). PMUs and RPUs will ensure the following: (i) overall management and coordination of the project; (ii) annual planning and preparation of consolidated GRMc and project progress reports; (iii) taking appropriate measures and reporting on project implementation, including M&E and training, overseeing and monitoring activities, and assessing the impact of the project; (iv) fiduciary management and reporting (financial management and procurement); (v) interaction and coordination with other stakeholders; (vi) compliance with protective measures, including social and environmental; and (vii) overall knowledge management, as well as the development and mobilization of strategic human resources. The composition of the PMU staff, including their specialization, functional responsibilities, salary scale, annual leave, sick leave, as well as incentives and incentives, such as bonuses, trade union recreation in sanatoriums of the Republic of Tajikistan, etc., will be described in detail in the PPR.

343. **Project Technical Committee (TC). The** PTC will provide support to the Project Technical Committee (PTC), which will be established through the involvement of technical experts from the various organizations involved in the implementation of the project. The PTC, chaired by the Deputy Minister of Agriculture, will be responsible for providing technical advice to the PMU on the quality of progress reports

and special studies, guidance to be prepared, best practice documentation, and M&E reports. (ii) to provide technical advice on how to implement the project; (iii) to provide institutional capacity building for the PMU and related implementation structures; and (iv) to review and review all documents prepared in accordance with the project responsibilities, providing recommendations and guidance for improvement. The TAP will hold quarterly meetings to review the technical aspects of annual plans and monitoring reports. The composition, terms of reference, functional duties and responsibilities, as well as the frequency of TCH meetings will be detailed in the PMU.

344. In connection with the expansion of the scope of the project under additional funding, the following additional institutions will be involved in the coordination of the project:

345. Ministry of Health and Social Protection of the Population (MOHSPP) – coordination of distribution of micronutrients, vitamin supplements and RUTF through the PHC network; training of medical personnel; warehousing and storage of products at the national level; overall coordination, monitoring, reporting and supervision of the appropriate administration of supplements;

346. UNICEF – procurement and delivery of micronutrients, vitamin supplements and RUTF; technical support in the field of nutrition;

347. Agency for Land Reclamation and Irrigation under the Government of the Republic of Tajikistan – support for the rehabilitation of irrigation systems; technical expertise in the development of the implementation project;

348. Committee on Food Security under the Government of the Republic of Tajikistan – coordination of food security activities, including FSCPP and NRFP;

349. Ministry of Industry and New Technologies — participation in the Government Committee for Supervision of the NRFP

350. Tajikstandart Agency – participation in the supervision of NRFP; standardization of fortified food products.

8.2. Institutional capacity-building activities for MOEW

351. In order to ensure effective project implementation and a clear understanding of the environmental and social risk management requirements in line with the new ESF, the project proposes a MOEHR Training Plan. The program provides training on both the general principles of the World Bank's environmental policy, relevant national legislation, and some specific aspects relevant to the project.

352. The Ministry of Agriculture has experience in implementing investment projects financed by various IFIs. Within the framework of these projects, capacity building trainings were conducted. However, given the specifics of the project, the wide range of planned activities, it is necessary to increase the agency's implementation capacity to meet the new requirements of the ESA.

353. For this purpose, prior to the commencement of construction work, the PMU will hire a consultant with knowledge of national environmental and social management requirements, as well as significant knowledge of the provisions and requirements of the World Bank's ESA, who will will independently develop training materials and trainings. The trainings will include the main requirements of the World Bank, national rules and procedures for environmental and social risk management, as well as case studies in this area. All developed materials after the first series of trainings by the Consultant will be transferred to the project implementation agency for further application.

354. In the course of discussions with stakeholders, it became clear that it would be useful to harmonize the content of the national environmental assessment procedures and the content of the EA report with the requirements of the EOA for the MOEW. In particular, the inclusion of the EEA in the national EAO report would simplify the process of preparing environmental documents.

355. The capacity building proposal under the Environmental and Social Risk Management Project will cover the following activities:

Table17: Preliminary training plan on MEHR

	Name of the training	**Time and estimated duration**	**Target group**	**Organizer**
1.	Review of the EO EB and their implementation during the project cycle. National environmental requirements for project preparation and implementation	During the first year of the project Duration – 0.5 days	MCC staff, including regional project offices, TCH	Consultant
2.	Implementation of the RDOWS, PWSV, OPP, SPDP/SPDP, PRTO, PVS, MRJ	Before selecting subprojects Duration – 2 days	MCC staff, including regional project offices, TCH	Consultant
3.	Implementation of the REDA, WEEP, social assessment	Before selecting subprojects Duration – 2 days	Local stakeholders in the two regions	Consultant
4.	Integrated pest control and management	Prior to the start of sub-projects 1 day and during the implementation of the project	PCC E&S specialists, PCC regional offices, farmers, ALC, TCH	Consultant, MCC
5.	Training and awareness-raising on GBV/implementation of the GBV action plan	Half-day workshops at the regional level at the beginning and in the middle of the project	MOA Staff Contractor and supervisor Local authorities/mahallas/ members of the local community	Consultant, MCC
6.	Reporting on the results of E&S issues	During the first half of the project implementation Duration – 0.5 days	MCC staff, including regional project offices, TCH	Consultant

IX. MONITORING AND REPORTING ACTIVITIES

9.1. General requirements for environmental and social monitoring and reporting

356. Environmental and social monitoring during the implementation of sub-projects should contain information on the key environmental and social aspects of the sub-projects, their impact on the environment, the social impact of the impacts and the effectiveness of the measures taken to mitigate the impacts. This information allows the PMU to monitor the implementation of environmental protection measures, assess the effectiveness of mitigation measures and allows for the timely implementation of corrective actions that need to be observed, how often, where and by whom monitoring should be carried out.

357. Monitoring of the implementation of environmental protection measures should be carried out by the environmental specialist of the PMU and the regional offices of the project. Representatives of the Committee for Environmental Protection may also be involved in the monitoring. The aim is to verify the main points of compliance with the EAPL, the progress of implementation, the scope of consultations and the involvement of local communities. The standard checklist prepared during the assessment studies will be used to report on the activities. In the medium term of the project and at the end of the project, an independent environmental, social, health and safety audit will be conducted. Audits are necessary to ensure that (i) the EIR has been properly implemented and (ii) mitigation measures have been identified and implemented accordingly. The audit will be able to identify any amendments to the EADR approach to improve its effectiveness.

358. The monitoring of social risk management activities will be carried out on an ongoing basis by the PMU's Social Development Specialist to ensure that there are no unintended consequences during construction work on the land, production assets, illegal users, people's livelihoods, asset valuation, etc. Monitoring will also cover health and safety issues, as well as stakeholder engagement activities. If some issues are identified, mitigation measures will be proposed in the progress reports or in separate Corrective Action Plans (CAPs) (details are provided in the section below on environmental and social reporting).

9.2. Environmental and Social Monitoring

359. In order to ensure the implementation of the environmental measures specified in the PWSP, monitoring should be carried out as follows:

- *Visual monitoring – During the construction phase of sub-projects,* environmental and social specialists should constantly monitor the implementation of the CAP. This will be achieved through monthly inspections by the Construction/Rehabilitation Project Specialists throughout the construction period. Specialists have the right to suspend work or payments if the contractor violates any obligations to implement the CAP.

  For existing facilities, MOEHS support specialists check the timeliness of contractors' reports on discharges into water bodies, air emissions and solid waste, which contractors must periodically submit to the regional committees on ecology and environmental protection.
- *Instrumental monitoring of environmental quality*, such as air and water quality. Taking into account the activities to be carried out within the framework of this project, instrumental monitoring cannot be carried out. However, in case of complaints about violations or inconveniences from the local population, instrumental measurements of air or water quality must be carried out by the PMU through the involvement of a certified laboratory.

360. The environmental and social issues included in the mitigation framework are monitored by designated professionals through the PMU. Although environmental and social impacts are expected to be negligible, potential negative environmental impacts are planned to be prevented or mitigated during the construction and operation phases. Monitoring is based on impact/mitigation/monitoring issues as defined in the WRP and/or in the sub-project WRP checklists. Supervisory monitoring will be carried out through weekly audits of environmental performance by contractors throughout the construction period. The PMU has the right to suspend work or payments if the contractor breaches any of its obligations to implement the

WRP.

361. In addition, World Bank experts will also visit certain sites annually to monitor compliance. As mentioned above, in the event of non-compliance, the Regional Specialist/PMU will investigate the nature and cause(s) of the non-compliance and, if necessary, decide what is necessary to ensure the subproject's compliance or whether funding will be suspended.

362. **9.2.1. Monitoring of emergency operations for the distribution of seeds, fertilizers and small agricultural machinery**

363. MCC RPSH provides monitoring of:

364. Quantity and quality of distributed seeds, fertilizers and small agricultural machinery;

365. Compliance with the criteria for the selection of beneficiaries of emergency operations;

366. Instructing beneficiaries on the safe handling of fertilizers, seeds and agricultural machinery;

367. Provision of PPE for distribution personnel;

368. Feedback from beneficiaries through ITL;

369. Disposal of unused materials and empty packaging.

370. Information on the monitoring results is provided in quarterly reports on the progress of the project.

371. **9.2.2. Monitoring of measures to improve nutrition**

372. The nutrition specialist of the RPSH MCC provides:

373. Monitoring of storage conditions for micronutrients, vitamin supplements and RUTF in the warehouses of the Ministry of Health and Social Protection of the World;

374. Control of product shelf life;

375. Monitoring of distribution through the primary health care network;

376. Independent Monitoring (TPM) through a local civil society organization;

377. Reporting to the National Council for Improved Nutrition, the Coordinating Council for Maternal and Child Health and other coordination mechanisms;

378. Monitoring of the information and communication campaign.

379. **9.2.3. Monitoring of irrigation system rehabilitation**

380. The Environmental Specialist of the RPSH MCC together with the Agency for Land Reclamation and Irrigation provides:

381. Visual monitoring at the stage of work;

382. Monitoring of compliance with the Contractor's Compliance with the Quality Management Standards;

383. Monitoring the restoration of access to irrigation water after the completion of work;

384. Control of dismantling of dismantled equipment;

385. Monitoring the impact on water resources during the period of work;

386. Verification of the availability of notifications from beneficiaries about the work schedule.

387. **9.2.4. Monitoring of the construction of five ALCs**

388. Monitoring of the construction of the ALC is carried out in accordance with the general procedures set out in subsection 9.2, taking into account the following additional requirements for the ALC in GBAO:

389. Control of compliance with the requirements of earthquake-resistant design;

390. Monitoring of logistics risks in the delivery of building materials;

391. Control of compliance with the work schedule, taking into account the climatic conditions of the highlands.

9.3. Reporting on environmental and social indicators

392. Environmental and social performance, including monitoring, should be properly documented and reported. In accordance with national legislation, for projects under construction, each contractor should keep a log of Health, Safety and Environment (HSE) training information for workers and another log for recording accidents during construction work. In the case of instrumental monitoring, the original records of the results of the required instrumental environmental monitoring (air and water quality) should also be kept in a separate record file.

393. *For the construction/remediation related sub-components*, it is recommended that contractors, with the assistance of the PMU, develop a format (checklist) for site inspections to optimize the environmental and social supervision process prior to the commencement of work. The format may be in the form of a checklist with a list of mitigation measures to be implemented at the construction sites, the status of their implementation, and some explanations of the status of implementation, if necessary. The contractor shall submit summary reports on the implementation of the PMU on a monthly basis. The list of measures that are reviewed by the Environmental and Social Specialists (ESSs) during a site visit should be in line with the measures specified in the CSRP for the supervised sub-project. Information on the results of the construction/rehabilitation monitoring of the facilities should be provided to the Regional Specialist at the PMU on a quarterly basis. Based on the reports received from the Regional Specialist on a semi-annual basis, the PMU will prepare a summary report on the implementation of the WEAP and WEEP, which will be included in the regular progress reports to be submitted to the World Bank.

394. Monitoring reports during the implementation of the project will provide information on key environmental and social aspects of[52] the project's activities, especially with regard to the environmental impact and effectiveness of mitigation measures. Such information will allow the PMU and the World Bank to assess the success of mitigation measures within the framework of project supervision and allow corrective actions to be taken, if necessary.

395. In the monitoring section of the sub-project, the following will be presented:

(a) details of monitoring measures, including parameters to be measured, methods used, sampling locations, frequency of measurements;
(b) Monitoring and reporting procedures: to (i) ensure early identification of conditions requiring mitigation measures; and (ii) provide information on mitigation progress and results.

396. The PMU will provide a summary of the implementation of the WEAP and the environmental and social activities of the subproject as part of the progress reports to be submitted to the EOs every six months.

397. If social monitoring has revealed any impact, it should be mitigated immediately. If there is an

[52]Including impact on the workforce, gender issues, impact on socially vulnerable groups, stakeholder and community participation, social conflicts, ILM, impact on land resources, etc.

impact on land, production assets, illegal users, livelihoods, asset valuation, etc., construction activities should be stopped and the PMU should be informed immediately. Corrective Action Plans (PCAs) should be developed. The PCA should contain information on the project subcomponent, the status of construction works, types of impacts and social impact assessments, as well as proposed mitigation measures. The PCA should be prepared by the subcomponent Contractor and approved by the PMU. All unforeseen impacts within the subproject that occurred outside the right-of-way should be compensated/mitigated by the contractor. This should be reflected in the tender documents. All impacts in the right-of-way should be compensated by the Subproject Contractor.

398. The PMU Monitoring and Evaluation Specialist is responsible for the overall collection of information on progress and results. It is proposed that the semi-annual reports and quarterly unaudited IFRS be submitted to the WB. These reports should include community scorecards on project implementation and success, together with financial records, project implementation records, social audit meetings, and feedback and complaints received. Outcome measures are the outputs defined in the results matrix and the set of outcome indicators defined in the PPR. The PMU will be responsible for preparing the completion report. All environmental and social issues are monitored and monitored by the PMU or a regional specialist. Despite minor social impacts, potential negative impacts must be prevented or mitigated during the construction and operation phases.

399. The environmental and social monitoring system starts with the preparation phase of the project sub-component through the operation phase in order to prevent negative impacts of the project and monitor the effectiveness of mitigation measures. This system helps the EOs and the MoA to assess the success of mitigation within the framework of project oversight and allows action to be taken when necessary. The monitoring system provides technical assistance and control when necessary, early detection of conditions related to mitigation measures, monitors mitigation results and provides information on the progress of the project. The monitoring plan defines the monitoring objectives and defines the type of monitoring, as well as their relationship to impacts and mitigation measures. In particular, the monitoring section of the PWP provides: (a) a specific description and technical details of the monitoring measures, including parameters to be measured, methods to be used, sampling locations, frequency of measurements; and, (b) monitoring and reporting procedures to: (i) ensure early detection of conditions that require specific mitigation measures, and (ii) provide information on the progress and results of mitigation.

9.4. Reporting on Occupational Health and Safety (OHS)

400. OHS issues should be covered in all surveillance and monitoring activities. This means, in particular, monitoring whether the facility is following good OH&E practices, asking if all employees have received OH&S training, whether there have been any incidents, checking logs, and the availability and use of protective and preventive equipment. Accordingly, the MOSS sections of all progress reports include statements indicating that the PMU has reviewed health and safety issues and the procedures in place in this regard, and asked if there have been any major incidents or fatalities. Similarly, the PMU will ensure that the project start-up workshop and the operational manual contain appropriate health and safety provisions.

401. Any incidents occurring at project sites and/or project-supported activities should be reported immediately, for example, by the contractor to the employer, the PMU, and subsequently to the Ministry of Agriculture. All incidents should be reported to the World Bank no later than 48 hours after they occurred.

402. Details of any incidents that have occurred or lack thereof will be provided in regular progress reports to the MoA and the World Bank. The relevant HSE text to be included in the progress reports could be as follows: Since its inception, the project has reported X health and safety (HSE) incidents. Of these, X is classified as SEVERE, X as SERIOUS, and X as INDICATIVE. The accounting of all incidents is validated by the Environmental and Social Incident Response Toolkit (IRESI) (see below). During this mission period, the PMU verified with all contractors and consultants as part of all project activities whether any reported or yet reported HSE incidents had occurred. The PMU detected (EITHER) (i) no new incidents occurred during this observation period, or (ii) X incidents occurred (including classification, summary of

the event and follow-up, and the confirmation event was reported through IRESI)]. Monitoring activities during the reporting period showed that HSE practices were being respected/partially complied with/not complied with. The following deficiencies were found: The following recommendations were made for [XX contractor/household/enterprise]

403. The World Bank's Environmental and Social Incident Response Toolkit helps manage incidents consistently by providing clear guidance on how to classify the severity of incidents, how to ensure a proportional response according to severity, and clarifying roles and responsibilities. IRESI also requires the borrower to conduct a root cause analysis in the event of a major incident.

404. *An "incident"* is defined as an accident, incident, or negative event resulting from a failure to comply with established risk management measures OR conditions that arise from unexpected or unforeseen environmental or social risks or impacts during the implementation of a project. Examples of environmental or social incidents include: loss of life, serious accidents and injuries; social impacts from an influx of labor; sexual exploitation and abuse (SEA) or other forms of gender-based violence (GBV); serious environmental pollution; child labor; loss of biodiversity or essential habitat; loss of physical cultural resources; and loss of access to public resources.

405. The World Bank's IRESI is not a substitute for monitoring and regular monitoring of the implementation of the project's MOEW provisions. The document includes the following six stages of the incident management and reporting process:

406. **Stage 1. Initial** notification of the incident. The contractor, executor, supervisor informs the PMU, local authorities, the WB, the public, providing urgent medical care and ensuring the necessary safety measures for workers. All measures must be taken immediately. At the same time, all the necessary data about the incident is collected - its scale, degree of danger to public health and the environment, location, cause of occurrence, duration, what decisions are made by the executor, what actions should be taken next, etc.

407. **Stage 2. Assess** the severity of the incident. The contractor must promptly provide the EO with information about the incident and the degree of its danger.

408. **Stage 3.** Notification. The contractor prepares a notification of the incident for the EO. The submission of a notification in case of an incident must be determined when signing the contract with the contractor.

409. **Stage 4. Investigation** of the incident. The contractor shall provide any information requested by the EO and shall not interfere with the visit to the scene of the incident. The contractor shall also be obliged to analyze the causes of the incident with the assistance of the contractor and document the information obtained. The contractor may need to engage external experts to investigate the incident. The investigation period shall not exceed 10 days after the incident. The results of the investigation shall be used by the contractor and the contractor to develop a corrective action plan (CTP) to avoid a repetition of what happened in the future.

410. **Stage 5.** The Contractor shall develop a Corrective Action Plan with specific actions, responsibilities, implementation deadlines and a monitoring program and discuss it with the EO. In the case of serious incidents, the EO, and the Contractor shall agree on a set of measures to eliminate the root causes of the sources of such incidents. The CKD shall specify the actions, responsibilities and deadlines to be performed by the Contractor and the Contractor. The Contractor shall be responsible for the implementation of the PIC. The CKD may include the development or modernization of technical measures to protect the environment and prevent further pollution, training, including on the provision of emergency medical care, compensation for insured injuries or death. If the EOs consider that the CAP measures are not effective and/or the executor has demonstrated unwillingness or inability to take corrective measures, the EOs may consider suspending all or part of the loan payments until such action is taken, or in some cases, considering canceling all or part of the project after it has been suspended. Such decisions by the EOs are referred to the PMU and the Ministry of Agriculture to determine appropriate actions by the EO.

411. **Stage 6. Monitoring of the implementation of the PCD.** The executor fulfills the PCD, controls

the implementation of individual items of the PCD and submits a report on the implementation to the WB.

412. All project participants will be required to immediately report occupational safety incidents (severe and serious) (by contractors to employers, subborrowers to NGOs, project implementers to the World Bank). It is required that the World Bank be notified of each serious and serious incident within 24 hours.

413. To oversee OH&S issues during project implementation, including construction activities, the PMU's Environmental Officer may use, as appropriate, the "Health, Safety and Welfare Checklists", see Appendix 9.

9.5. Integration of the RALRS into the project documentation

414. The EAP requirements will be integrated into the Project Operational Manual, and the WISP requirements will be integrated into the construction contracts for all sub-projects, both in the specification and in the scope sheet, and contractors will be required to include the cost of implementing the SEEP in their financial proposals. On the basis of the EHRP, the roles and responsibilities of all parties involved in the ESP process will be outlined. Finally, based on the requirements of the WEAP and WEEP, the monitoring and evaluation of the mitigation/prevention measures identified in the site-specific review and in the WEEP will form an integral part of the sub-project implementation, including them in contracts binding contractors, and contractors will be required to meet environmental and social obligations when carrying out the construction work. In addition, as stated in the WEEP, the contract clauses should include requirements for compliance with all national building codes, health protection, MOEHR procedures, and environmental and social protection regulations.

415. The provisions of the ESMF will be used for the following activities:

(i) Incorporation of the ESMF requirements into the operational guidance of the project;
(ii) Inclusion of environmental standards, ESRP in construction contracts for individual sub-projects, both in the specification and in the statement of works, sub-borrowers should include the cost of meeting the requirements of the ESMF in their financial proposals;
(iii) Distribution of the subsequent responsibilities of the ESMF within the framework of the PMU;
(iv) Identification of mitigation and prevention measures during the implementation of the selected project subcomponent;
(v) Monitoring and evaluation of mitigation/mitigation measures identified in the site-specific review and in the ESA. The necessary mitigation measures will be an integral part of the sub-project, including contracts requiring contractors to meet environmental and social obligations during construction.

416. All contractors must use environmentally acceptable technical standards and procedures of the World Bank in the performance of work. In addition, the terms of the contract must specify the requirements for compliance with all national building codes, safety, procedures and rules for the protection and protection of the environment, as well as the protection of the environment.

417. Contractors for SALs and major remediation works are required to prepare contractors' ESMFs, based on the ESAs/ESMFs prepared as part of the preparation of the bid.

X. GRIEVANCE REDRESS MECHANISM

10.1. Grievance Mechanisms (GRMs)

418. Grievance procedures should ensure that RLS are able to file grievances or grievances at no cost to themselves and with the guarantee of a timely and satisfactory resolution of the matter. The procedures also ensure that the rights of the intended beneficiaries are effectively enforced. Interested parties will be informed of the intention to implement a grievance mechanism. ITLs are developed in accordance with national legislation as well as international standards, and generally address both environmental and social issues. Grievances and grievances can be dealt with at the following levels:

Phase One: Regional Grievance Management Units (RGMs) will be established in the Khatlon and Sughd Regional Offices of the Project (RGM) to review and resolve grievances in cooperation with relevant organizations at the local level within 14 days of receipt of complaints. The ITF Focal Point will be responsible for maintaining logs of complaints and feedback. If the issue cannot be resolved at the regional level, it will be escalated to the national level. Local public authorities will be fully involved in working with local communities and individuals and will provide mediation support in general and transfer complaints in particular.

Phase Two: If the Regional Grievance Management Teams are unable to resolve the grievance within 14 days, the grievances must be submitted to the MSA PMU at the national level. The National Grievance Management Team, represented by E&E, M&E, engineers, and other relevant professionals, will work under the guidance of the PMU Director. The PMMC will make the final decision after assessing the case and carefully preparing the decision by the PMU's Resettlement and Environmental Protection Officer. Complaints must be reviewed and resolved within 14 days of the complaint being filed. The PMU will also accept all project complaints from other project regions and areas where there are no PMOs.

Third stage: If no decision is reached at the PMU level within 14 days, then the persons affected by the project can apply to the appropriate court.

419. Complaint registers, together with grievance forms, are maintained on-site, all grievances are retained by the contractors, and the detachable stubs are retained by the RLP in order to ensure a proper and transparent grievance process. Affected persons can raise their grievances either individually or through representatives of local jamoats and hukumats. *Anonymous complaints related to project activities are also accepted by the RLI for a specific project.*

420. Brochures containing information about the project, as well as contact addresses/telephone numbers for communication, are distributed and available at the level of project districts and jamoats. Complaint registers together with complaint forms are maintained on site, all complaints are registered in logs, and tear-off stubs are retained by the LZP in order to ensure a proper and transparent complaint handling process.

421. The ITL will be designed in such a way that, among other things: (i) it is easily accessible to all and is as close as possible; (ii) complaints are encouraged in any form (oral/written), including anonymous complaints; (iii) the composition of the complaint bodies is inclusive and empowered; (iv) is bound by appropriate protocols in terms of time for review, transmission of information and logging, i.e. it is a repository.

422. **Complaint Logs. The** Complaints Handling Contact Person (CLORO) will maintain a complaint log in the field to ensure that each complaint has an individual identification number and is properly tracked and recorded, and that all actions taken are recorded. Upon receipt of feedback, including complaints, the following will be determined:

- Type of request;
- Category of appeal;
- Persons responsible for the consideration and processing of the appeal;
- Deadline for consideration of the appeal;

- Agreed action plan.

423. CLOROZH will ensure that each complaint has its own individual identification number and is properly tracked and recorded. The complaint log must contain the following information

- The name of the person affected by the project, his/her location and details of the complaint;
- Date of filing the complaint by the applicant;
- Date of uploading the Complaint Log to the project database;
- Details of the proposed action measures, name of the approving body;
- The date on which the proposed action was sent to the applicant (if applicable);
- Details of the Grievance Panel meeting (if any);
- The date the complaint was closed; and
- The date on which the response was sent to the applicant.

The Project ITF also receives and addresses complaints related to additional funding activities, including:

(a) Complaints about the quality and quantity of distributed seeds, fertilizers and small agricultural machinery in the context of emergency operations;
(b) Complaints about the identification of beneficiaries of emergency operations and the selection criteria;
(c) Complaints about the quality, availability and shelf life of micronutrients, vitamin supplements and RUTF;
(d) Complaints about temporary restrictions on access to irrigation water during the rehabilitation of irrigation systems;
(e) Complaints related to food fortification through the NFP;
(f) Complaints about the availability of ALC services, including GBAO and RRS;
(g) Complaints related to safety in the use of distributed small agricultural machinery.
Complaints related to the distribution of micronutrients and RUTF are submitted for consideration to the Ministry of Health and Social Protection with notification of the PCC of the RPA. Complaints related to the rehabilitation of irrigation systems are considered jointly by the PCC of the RPSH and the Agency for Land Reclamation and Irrigation.

10.2. Monitoring and reporting of complaints

424. The MCC M&E specialist will be responsible for:

- Collection and analysis of qualitative data from KOROZH on the number, content and status of complaints, and uploading them to a single project database;
- Monitoring of unresolved issues and suggestion of measures to solve them;
- Preparation and submission of quarterly reports on the mechanisms of the RML to the World Bank.

425. Quarterly reports submitted to the World Bank should include a section related to the ITL, which provides updated information on:

- Status of implementation of the ITL (procedures, training, public awareness campaigns, budgeting, etc.);
- Qualitative data on the number of complaints received \ (appeals, suggestions, claims, requests, positive feedback), while it is necessary to separately highlight complaints related to forced resettlement, as well as the number of resolved complaints, as necessary;
- Quantitative data on the types of complaints and responses, issues raised and unresolved complaints;
- Level of satisfaction with the measures taken (response);
- Any corrective action taken.

10.3 World Bank Grievance Service

426. Communities and individuals who believe that they are adversely affected by a World Bank-supported project have the right to submit complaints through the existing project-level grievance mechanisms or through the World Bank's Grievance Service (GRS). The LPR ensures that complaints received are promptly addressed to resolve project-related issues. Affected communities and individuals have the right to submit complaints to an independent World Bank Inspection Panel, which determines whether non-compliance with EOB policies and procedures has caused or may have caused harm. Complaints can be submitted at any time after concerns have been brought directly to the attention of the World Bank and the Bank's management has been given an opportunity to respond to the complaint. To view the procedure for submitting complaints to the World Bank's corporate Grievance Service (GRU), please visit the following link *http://www.worldbank.org/en/projects-operations/products-and-services/grievance-redress-service*. To view the procedure for filing complaints with the World Bank Inspection Panel, please visit the following link *www.inspectionpanel.org*.

XI. PROMULGATION OF THE REDAC AND PUBLIC CONSULTATIONS

427. The preparation of the ERAPs and EWRs was participatory. The MoA and PMUs held a series of meetings, consultations, and discussions on the development of the project between January and March 2021 to: (i) discuss the details of the project activities with relevant governmental and non-governmental institutions; (ii) agree on the approach to project preparation; (iii) agree on the fiduciary and EOIA requirements related to the preparation of the project; and (iv) consider additional questions and recommendations that were given during the World Bank's internal meeting to review the project concept note.

428. In order to address social risks and in line with ESP10 on "Disclosure and Stakeholder Engagement", the Government of the Republic of Tajikistan/Ministry of Agriculture (MoA), the executing agency, has developed a Stakeholder Engagement Plan. The SEP allows the project to identify different stakeholders and develop an approach to reach each group and serves the following purposes: (i) to identify and analyze stakeholders; (ii) engagement planning methods, namely an effective communication tool for consultation and disclosure; and (iii) to provide platforms to influence decisions; (iv) to define the roles and responsibilities of the various actors in the implementation of the plan; and (iv) to establish a Grievance Mechanism (GRM).

429. Details of stakeholder meetings and public consultations are provided in Table 18 below.

Table18: Public Consultation (January-April 2021)

Place and Method	Date	Participants	Key points touched upon
Dushanbe, Virtual discussions via WebEx.	January 18, 2021.	Ministry of Agriculture (MoA) – Ms. Nigina Anvari, Deputy Minister of Agriculture, Project Development Team (PFS), as well as the WB Mission Team.	• Initial meeting and discussion of the project preparation process, deadlines and requirements from the URT. • Preparation of documents on social and environmental risk management by the Ministry of Agriculture with technical support from the World Bank.
Dushanbe, Virtual meeting via WebEx.	January 19, 2021.	The WB mission team, the Ministry of Agriculture, all members of the PCC (relevant structural departments of the Ministry of Agriculture, the Academy of Agricultural Sciences of the Republic of Tajikistan, the Tajik Agrarian University named after Sh. Sh. Shokhtemur, as well as the staff of the Project Management Center of the "Agricultural Commercialization Project").	• Detailed presentation by the IF on investment ideas by component and/or sub-component and discussion about the presentation.

Dushanbe, Virtual discussions via WebEx.	January 20, 2021.	The PFC, the WBG mission team, representatives of research institutes, the Tajik Agrarian University (TAU), the Academy of Agricultural Sciences of the Republic of Tajikistan (ASHR), and the Ministry of Agriculture (MAA).	• Presentation on Component 1: Seeds, seedlings and planting materials, as well as discussion. • Presentation on Component 2: Agro-Logistics Centers, as well as discussion. • Presentation on Component 3: Strengthening the capacity of selected government agencies in the field of early warning, preparedness and response, as well as discussion.
Dushanbe, WebEx meetings.	January 21, 2021.	KRP, WBG, as well as the corresponding structural units under the Ministry of Agriculture.	• Presentation of fiduciary (procurement and financial) management requirements, as well as discussion.
Dushanbe, Presentation and consultation with key government stakeholders, WebEx.	January 22, 2021.	The PFG, the WBG mission team, the relevant units under the Ministry of Agriculture, and the Committee for Environmental Protection.	• Discussion of Component 3, together with the IF: Strengthening selected government institutions for crisis prevention and management. • Presentation on the requirements of the World Bank's Environment and Social Matrix (MOEWS) and discussion.
Dushanbe, Presentation via WebEx and consultations with key government stakeholders.	January 27, 2021.	The PCT, the WBG mission team and representatives of relevant divisions/departments under the Ministry of Agriculture, representatives of seed enterprises, seed associations, as well as relevant stakeholders.	• Presentation on Component 1: Seeds, seedlings and planting materials, as well as discussion.
Dushanbe, Email exchange, phone calls, meetings.	From February 11 to March 10, 2021.	WB, MA, MCC PKSH, TAU, ASHNRT, Association of Dehkan Farms, Association of Employers, Sarob Cooperative, as well as other interested parties.	• Development of risk management tools for EIS: 1. Environment and Social Framework Document (WEIR), including an assessment of current pest management practices; 2. Resettlement Policy Framework (REIT); 3. Stakeholder Engagement Plan (SEP); and • Labor Relations Regulation Procedures (TRTO).
Personal consultations (face-to-face) with the public	April 15-22, 2021.	Multi-stakeholder workshops in Dushanbe and Bokhtar.	• Public consultations on the draft version of the REDI instruments.

430. Given the nature of the pandemic situation, public consultations were held online and in person with key stakeholders represented by professionals from state and non-governmental organizations and institutions. Vulnerable groups were represented by the Association of Dehkan Farms and Sarob Cooperative. A number of questions arose during the public consultations. First, several subprojects will have potentially adverse environmental impacts, primarily due to activities related to small-scale agro-industrial enterprises; small-scale rehabilitation, maintenance and modernization of various premises or storage facilities. The project will attempt to mitigate these impacts through proper project design and best implementation practices.

431. Secondly, there is the risk of forced acquisition of land. The project includes construction work, some new and other repair and restoration work. New construction will necessarily require "land". The government will provide the land; however, due diligence is required to ensure that there is no physical and/or economic displacement. The risks associated with this will need to be avoided or mitigated, or if a forced acquisition is unavoidable, then this will need to be addressed as described in the OFP.

432. Third, the project learned from previous engagement with relevant stakeholders and therefore focused not only on direct beneficiaries but also on indirect beneficiaries such as dehkan farms and small household owners. In addition to direct effects, such as job creation in a separate project for vulnerable groups, including the poor and women, the project also directly targeted secondary beneficiaries and suppliers to enhance the multiplier effect coming from value chain support. The expansion of large-scale horticulture and greenhouse farming, which will be facilitated by the upcoming project, may displace the participation of private greenhouse households and orchard owners in rural areas, especially those whose main source of income is agriculture. A social inclusion plan should be prepared to improve access to project benefits and investments for a wide range of farming groups.

433. Fourth, special attention should be paid to women, who make up the majority of casual and temporary workers in agriculture. Women often work in lower-skilled positions. Working on a temporary or casual basis without formal contractual relationships entails less job security and less social protection. Wage discrimination can also occur, for example, when using generally accepted wage rates for men and women that are not linked to real productivity.

434. Fifth, as production in the agricultural sector is significantly more labour-intensive, especially during harvest periods, there is a moderate risk of using child labour in the project-supported facilities. To mitigate this risk, the project will collaborate with the ILO and the Ministry of Labour, Migration and Employment to build the capacity of local governments and PMU regional offices to monitor child labour in the target areas.

435. Sixth, the beneficiaries of the project have a low absorption capacity, as large farms are in a better position. The technologies being developed should be more user-friendly for a wide range of beneficiaries/farmers. Particular attention will be paid to the transfer of information through technologies that are also available to women farmers.

436. A total of 6 virtual meetings and 15 individual telephone interviews were conducted. The participants were medium and large farmers engaged in horticulture, large agribusiness entrepreneurs, representatives of greenhouse firms, heads of refrigeration enterprises, heads of mahallas and the general population (the latter includes small farmers - dehkan farms and household plots, as well as employees of large farms and agribusiness enterprises). Vulnerable groups were represented by the Association of Dehkan Farms and the Sarob Cooperative. A summary of the results of the public consultations and interviews is given in Section 4.2 below.

437. Prior to the evaluation of the project, three multi-stakeholder consultations were held on the draft E&W documentation prepared for the project in the target regions (Dushanbe and Khatlon region). They were attended by specialists from state and non-governmental organizations and institutions. The main purpose of the meetings was to familiarize the participants with the scope of the upcoming project and to summarize the potential impacts and risks, as well as the mitigation measures planned by the project.

438. The English and Russian versions of the WEAP and PU were posted on the MoA website on April 6, 2021 (https://www.moa.tj, *www.pmutacp.tj*). The final versions will be officially submitted to the World Bank for disclosure in English on the World Bank's external webpage by April 30. The English and Russian versions will also be republished on the PMU and DA websites. The client will follow citizen engagement and stakeholder consultations during the COVID-19 pandemic in line with the World Bank's recommendations:

> *https://www.worldbank.org/en/news/factsheet/2020/12/01/citizen-engagement-and-stakeholder-consultations-during-covid-19*.

439. The final version of this document will be used by the relevant government authorities and other

stakeholders of the project during the implementation of the project. The minutes of the consultations with the lists of participants are given in Annex 6.

440. In connection with the approval of additional funding and changes to this EALE, the updated version of the document will be posted on the MoA website (*www.moa.tj*) and the website of the AED PMU (*www.pmutacp.tj*), and will be submitted to the World Bank for disclosure in English on the external web page of the World Bank. Public consultations on the updated version of the ESMF will be held in the target regions of the project in accordance with the requirements of ESA 10.

Annex 1: PEST MANAGEMENT PLAN
(Updated version with Second Additional Funding – AF-2)

After reviewing the Environmental Verification Checklist, the Environmental Protection Officer of the PMU will determine whether the applicant needs to prepare a BSS. Such a decision will be made on the basis of the toxicity of the pesticides to be used and the environmental risks associated with the activity. If a decision is made on the need for the applicant to prepare a BSS for a sub-project loan, a two-stage process for the preparation of the BSS will be applied.

Scope of this ASP within the framework of DF-2.

This Pest Management Plan applies to all activities of the Project, including those funded under the Second Additional Financing (AF-2), namely:

(a) control of locusts and other crop pests that are exacerbated by climate change (including the Dryland beetle);

(b) the operation of five agro-logistics centres (ALCs), including fumigation plants for the processing of horticultural products (ALCs in Sughd region, Khatlon oblast – two facilities, Dushanbe, Dangar district, Khorog / GBAO);

(c) protection of agricultural products during storage in ALC, including the use of fumigants and insecticides;

(d) Introducing fish and rice farming methods to manage pests and diseases of rice and fish without the use of prohibited substances;

(e) ensuring the security of the handling of agrochemicals distributed as part of emergency operations to support vulnerable dehkan farms;

(f) transport, storage and distribution of micronutrients and premixes through the National Revolving Fund Premix (NRFP) to ensure the safe handling of substances to be added to food.

Step A: Request More Information

The applicant will provide the following information:

1. Types and use of pesticides

(i) What pesticides are planned to be purchased, including the name of the product, the type of composition, the concentration of the active ingredient?

(ii) Where will pesticides be purchased, including store name and location?

(iii) How many pesticides should be purchased, the size of the packages and their content in each package?

(iv) What type of equipment will be used to apply pesticides?

(v) Are feeders trained in the appropriate and safe use of pesticides?

(vi) Do you plan to use fumigants (including phosphine, methyl bromide or other registered fumigants) for the treatment of fruits and vegetables in ALC? If yes, indicate the type of fumigant, the volume of products to be processed and the frequency of processing.

(vi) Are there any plans to use pesticides as part of the Integrated Rice and Fish Farming System? If yes, confirm that the substances used are compatible with the fish in rice fields and do not contain antibiotics or hormonal growth promoters.

Purpose and expediency of pesticide use

(i) On which crops do you plan to use pesticides?

(ii) Which agricultural pests and/or diseases will be controlled by the pesticide? Including: locusts (Moroccan and other species), desert beetle (dryland beetle) and other pests that are increasing due to climate change.

(iii) What non-chemical pest control measures have been used in the past to control the pests and/or diseases mentioned in paragraph (ii) above?

(iv) How often should the pesticide be applied and in what quantities for any given application?

(v) How will the pesticide application schedule be resolved?

(vi) Have you received training or advice on non-chemical pest management or integrated pest management (IPMM)?

(vii) If not, how do you plan to receive assistance, advice or training on the amount and methods of pesticide application; calibration of spray equipment; use of personal protective equipment; storage and disposal methods, etc.

(vii) For ALC: what is the expected capacity of fumigation plants, which crops will be treated, what is the frequency of treatment and who will be the operator (ALC's own staff or an outsourced licensed company)?

Handling, storage and disposal of pesticides

(i) How will pesticides be delivered to the project site?

(ii) Where will pesticides be stored on a farm or at an ALC facility?

(iii) Will the pesticide storage site be guarded/locked and who will have access to these warehouses?

(iv) How will the access of animals, children and unauthorized persons to the storage areas be prevented?

(v) Where will pesticide mixing take place and what precautions will be taken to ensure that pesticide storage and mixing areas are away from granaries and production facilities?

(vi) How will surplus unused and mixed pesticide products be disposed of?

(vii) How will empty pesticide containers be disposed of?

(viii) How will pesticides be accounted for in terms of their acquisition, use and disposal?

(ix) For fumigants: where will the fumigants be stored, are the containers tight, gas analyzers and forced ventilation systems in the warehouse ensured?

For NRFP: how is the safety of transportation and storage of micronutrients and premixes ensured from the moment of purchase to transfer to flour mills and salt producers?

Environmental aspects

(i) Are pesticide application areas close to bodies of water, wetlands or known natural habitats?

(ii) Are there known natural pollinators that live in the vicinity of the sites of use? If so, what precautions will be used to prevent harm to beneficial species that are not affected by the pesticide?

(iii) Is the ALC located near residential areas, and is there a minimum necessary sanitary protection zone between the fumigation plant and the nearest residential buildings?

(iv) For Integrated Rice and Fish Farming System: Are rice fields located near natural water bodies, and how are the substances used prevented from entering natural watercourses?

Phase B: Preparation of an Integrated Pest Management Plan

Based on the information provided, the PCC specialist will identify the risks associated with the use of the pesticide, the more important and most practical mitigation measures that need to be applied, including any additional measures using non-chemical pest control measures.

The PMU specialist will advise the applicant on the scope and nature of the BSS to address the potential impacts of the activities under the sub-project. If necessary, the PMU specialist can advise the applicant on the professional services that can be obtained for the completion of a specific BSS sub-project. As a general rule, the BSP project looks like this**.**

Proposed LETS project:

Goals and objectives of the SAS (to provide information on the extent and severity of agricultural pests and diseases, including new pest species that are increasing due to climate change, such as locusts, desert beetles and others);

Total impact area of the project and major crops (land use and soil data, water resources, location of facilities, etc.);

Current pesticide and pest management practices/experiences in the Republic of Tajikistan; Existing and expected pest problems (Overview of existing pest management techniques and capacities, which should provide data on existing methods (chemical and non-chemical) for the management of specific agricultural pests and diseases, including a list of pesticides prohibited by local legislation or prohibited by the EFSAE of the MoEHR, limitations, results and extent of pest and crop pest and disease control, as well as the reasons for the increased pesticide use through the proposed sub-project loan. Include an analysis of locust and desert beetle distribution due to climate change, as well as an assessment of the impact of the lack of pest control activities in neighbouring countries);

Regulatory framework: Relevant national/regional and international policies/conventions ratified by the Republic of Tajikistan; Guidelines for the use of pesticides, fertilizers/agrochemicals; including requirements for the safe use of fumigants in accordance with national regulations and FAO guidelines;

Relevant ESS MOEHS for pest control;

Institutional framework (e.g., government agencies/local authorities and others responsible for pest control and management, include the role of the Committee on Food Safety, the Tajikstandard Agency and the Ministry of Industry and New Technologies in overseeing the safety of micronutrient management);

Main activities (e.g. surveillance, spraying/monitoring techniques, measures to protect living conditions, etc. include fruit and vegetable fumigation activities in the ALC, as well as measures to protect rice and fish within the framework of the Integrated Rice and Fish Farming System);

Public Complaints and Grievance Redress Mechanism (GRM);

Stakeholder engagement and disclosure of information on the HIPS;

Criteria for the selection and use of pesticides, including types and quantities; Selection of pesticides for the campaign to control locusts and other pests that are increasing due to climate change;

Pesticide use on crops (crop type, pests/diseases, dose...);

Approaches to the disposal of pesticide production waste;

Risks associated with the import, transport, storage, distribution and use of pesticides, in particular for locust and other pest control; risks associated with the operation of fumigation plants in the ALC;

Mitigation measures to prevent and manage these risks and impacts;

Guidelines/best practices for quality pest management;

Procedures for pesticide handling, packaging, disposal (provision of information on the types, quantities and nature of pesticides to be purchased and used, as well as on existing and proposed methods of handling, application, storage and disposal of pesticides);

Capacity Building/Training of Personnel in Pesticide Applications (Capacity, training and knowledge in the safe application and use of pesticides; provision of information on the available knowledge and capacity of staff and staff in the safe application and use of pesticides, and identification of training and knowledge gaps for capacity improvement; Training of ALC operators on the safe operation of fumigation plants);

Institutional arrangements and roles and responsibilities;

Monitoring and reporting approaches;

Responsibility for coordination;

Action Plan and Budget;

Other findings/information of direct relevance to the Project;

Links;

Mitigation measures to prevent and control potential pesticide exposure

In order to control locusts and other pests (including the desert beetle), it is important to strengthen the surveillance, early detection and response system, in order to prevent potential risks and avoid negative consequences, to carry out locust control activities, taking into account the increasing spread of pests due to climate change; to ensure the use of certified chemicals and equipment that meet international standards;

Mechanical, physical, cultural and biological control measures, if any, that can be used in combination with or in the absence of pesticides to suppress or reduce the severity of the target pest or disease to be controlled;

The chemicals and chemical procedures to be used to control pests and diseases, the conditions under which the chemicals will be used, including climatic conditions, vegetation conditions, the schedule of application, with a view to improving the effectiveness of the pesticide and reducing its impact on the environment, and the specific measures to be applied to protect vulnerable ecosystems, water systems and groundwater;

Management of health and safety aspects, which define measures to ensure the safe handling, transport, use, storage and disposal of pesticides in order to reduce risks to the environment and human health;

Measures to be put in place to ensure the safety and protection of the public during the application of pesticides;

Measures to track and monitor pesticide use and their effectiveness in pest control;

Measures to be taken to raise awareness, improve the flow of information and increase the capacity of agricultural workers on the threats associated with the unsafe use, handling and storage of pesticides and measures to reduce such risks, as well as options for integrated pest management;

Measures to be taken to obtain technical support for pest control and the safe use and application of pesticides, as appropriate;

Budget estimates for the implementation of the PBSV.

Safety requirements for the operation of fumigation plants in the ALC

Fumigation plants in five ALCs must be operated in strict compliance with national plant quarantine regulations and the FAO International Code of Conduct on Pesticide Management. To prevent the risks of poisoning workers (ESS 2) and the public (ESS 4), the following mandatory requirements must be met:

1. Qualification of personnel. Only persons who have undergone specialized training and have a certificate to carry out fumigation work by aerosol and gas methods are allowed to work with fumigants. In the absence of certified personnel at the ALC operator, fumigation work is carried out by an engaged licensed organization.

2. Infrastructure and equipment. Fumigation chambers must be airtight, equipped with forced ventilation systems with filtration and gas analyzers to monitor the concentration of the active substance in the air of the working area. Chambers must undergo regular technical inspection.

3. Zoning and access. A buffer zone (sanitary protection zone) is established around the fumigation zone. Unauthorized access to the fumigation zone is strictly prohibited. The area must be marked with warning signs that read: "DANGER: FUMIGATION / TOXIC GAS".

4. Personal protective equipment (PPE). Personnel must be provided and trained in the use of appropriate PPE: full-face respirators with gas filters of the appropriate class, protective suits and gloves.

5. Emergency response. Each ALC with a fumigation plant should have a Gas Leak Emergency Response Plan in place, including evacuation, first aid and emergency notification procedures. First aid kits with antidotes (if applicable) should be available.

6. Monitoring. Regular monitoring of air quality at the border of the sanitary protection zone of the ALC to exclude impact on nearby communities. Monitoring is carried out at least once a month during the operation of fumigation plants, as well as on the basis of complaints from the public.

7. Disposal. Fumigant residues and spent sorbents are disposed of in accordance with the national legislation on production and consumption waste. It is prohibited to discharge fumigant residues into soil or water bodies.

8. Reporting. The ALC operator keeps a fumigation log indicating the date, type and amount of fumigant, treated products, air monitoring results and any incidents. Copies of the logs are provided by MCC RPSH upon request.

9. Integration into the WSSR. The requirements of this section are included in the WSRP of each specific ALC. For the ALC in GBAO (Khorog), additional factors are taken into account: seismic hazard (zone 9 on the MSK-64 scale), limited transport accessibility and high-altitude climatic conditions affecting the logistics of the supply and storage of fumigants.

Locust and emerging pest control in the face of climate change

Support for locust and other pest control activities. Climate change is increasing locust proliferation and the emergence of new pest species, including the dryland beetle.

Measures:

(a) Ensure monitoring and early detection of locusts and desert beetles in the surveillance area (about 500,000 hectares) using an automated data collection system and a geographic information system;

(b) Use only certified chemicals authorized by the Commission on Chemical Safety of the Republic of Tajikistan and in accordance with the requirements of the FAO International Code of Conduct on Pesticide Management;

(c) Giving priority to biological and non-chemical control methods (including mechanical methods, biological preparations and cultural practices) over chemical methods;

(d) Carry out treatments during periods of minimal pollinator activity and away from water bodies, protected areas and settlements;

(e) Training of plant protection and locust management specialists on climate-smart agriculture and integrated pest management;

(f) Take into account the transboundary nature of pest distribution in the planning of activities and coordinate with FAO regional programmes.

Protection of rice and fish within the framework of the Integrated Rice and Fish Farming System

The introduction of mixed rice and fish farming requires special pest and disease management measures:

(a) The application of pesticides in rice fields used for the Integrated Rice and Fish Farming System is permitted only if the substances used do not pose a threat to fish and aquatic organisms;

(b) A ban on the use of antibiotics and hormonal growth promoters for fish;

(c) Use of fish feed in accordance with recommended standards to prevent water pollution;

(d) Use of only certified planting material of native fish species; ban on the release of invasive species;

(e) Prevent water from being discharged from rice paddies into natural watercourses without prior treatment;

(f) Training of beneficiaries in integrated rice pest management techniques compatible with fish keeping;

(g) Monitoring of aquatic ecosystems in the vicinity of rice paddies.

NRFP Supply Chain Security

The National Revolving Fund for Premixes (NRFP) procures and distributes micronutrients to flour mills and salt producers

Safety measures:

(a) Micronutrients are purchased from certified suppliers with proof of product quality;

(b) Micronutrients are transported in their original packaging labeled to protect against moisture, direct sunlight and mechanical damage;

(c) Micronutrients are stored in dry, well-ventilated areas with temperature and humidity control;

(d) Micronutrient intake and distribution are recorded in an electronic system with each batch traceable;

(e) Monitoring the shelf life of micronutrients; Disposal of expired products is carried out in accordance with national waste legislation;

(f) Independent Monitoring (TPM) through a local civil society organization;

(g) Coordination with the Committee on Food Safety, the Tajikstandard Agency and the Ministry of Industry and New Technologies in terms of standardization and quality control of fortified food products.

Review and approval of the Pest Management Plan

A SCO should be prepared in all cases of direct procurement and use of pesticides by all beneficiaries of the sub-project. The ASP project should be reviewed by PMU

specialists who will ensure its approval. These documents are also subject to preliminary review by the EOs for the first two such types of sub-projects.

The ASP for each ALC with a fumigation plant is subject to prior review by the World Bank prior to the start of the operational phase. The ASP for locust and desert beetle control activities is updated annually taking into account the results of monitoring and changing climatic conditions.

Recommended modules for training on pest management.

The BLS may include activities organized either in the whole project area or in a specific area of high importance. The recommended modules are as follows:

• Basic concepts of the integrated method of plant and animal protection;
• Alternatives to the use of pesticides, training of workers in their use and the use of the minimum effective dose;
• Study of agricultural pests, entomophages, their biology, microbiological preparations and the role of biological factors in regulating the number of agricultural pests;
• Compliance with environmental requirements for the system of control of agricultural pests, crop diseases and weeds. Description of environmental measures that ensure the preservation and increase of yields;
• Requirements for environmental and industrial safety during the storage, transportation and use of pesticides;
• Selection of technologies and applications for the reduction of unintentional releases or the diversion of chemicals, in accordance with the provisions of the SSAC, under controlled conditions, in compliance with international and local standards and environmental safety regulations;
• WVP templates (drawing on the experience of other WB projects) as well as pest management plans;
• Safe operation of fumigation plants in the ALC (including: chamber tightness, gas analysis, degassing procedures, PPE, emergency response, disposal of fumigant residues);
• Control of locusts and emerging pests in the context of climate change (including: monitoring, early detection, transboundary distribution, priority of biological methods);
• Pest management within the framework of the Integrated Rice and Fish Farming System (including: compatibility of the substances used with the content of fish, prohibition of antibiotics and hormonal stimulants, biological control methods);
• Micronutrient supply chain security through NRFP (including: transportation, storage, shelf life control, traceability).

Appendix 2.

CHECKLIST OF PRELIMINARY SOCIAL ASSESSMENT (SCREENING)

	Activities	Yes	No	Notes

1	Acquisition of land, buildings (residential and business)			If "Yes" and the answers to other questions are "No", provide the relevant documents available for the final purchase and sale transaction
2	Acquisition or expansion of a business to be undertaken by demolition/relocation homeowners, tenants, formal and informal user assets			If the answer is "Yes", provide additional details
3	Acquisition of assets that will result in the loss of access of individuals or a particular community/group, especially ethnic minorities, to: · Natural resources · Traditional places of residence · Traditional activities · Utilities			If the answer is "Yes", provide additional details
4	Acquisition/or expansion of a business that may increase/increase risk: 1. Violationsof the labor code and laws, including the use of child labor 2.Persecution of ethnic minority groups in the project areas (related to their identity, dignity, livelihoods, livelihoods, cultural identity) 3. Human trafficking			If the answer is "Yes", provide additional details
5	Will the acquisition of land be carried out using the law on the right of the state to expropriate property?			If the answer is "Yes", provide additional details
6	Will there be a permanent or temporary loss of housing and residential land due to the acquisition of land?			If the answer is "Yes", provide additional details
7	Will there be a permanent or temporary loss of agricultural and other productive assets due to the acquisition of land?			If the answer is "Yes", provide additional details
8	Will there be losses of crops, trees and fixed assets due to the acquisition of land?			If the answer is "Yes", provide additional details
9	Will there be a permanent or temporary loss of entrepreneurial activity or business due to the acquisition of land?			If the answer is "Yes", provide additional details
10	Will there be permanent or temporary loss of income and livelihood due to the acquisition of land?			If the answer is "Yes", provide additional details
11	If land or private property is acquired through the principle of an interested buyer and an interested seller, will this result in a permanent or temporary relocation, or a relocation of landlords or tenants?			If the answer is "Yes", provide additional details

12	If land or private property is acquired through negotiation or through the principle of an interested buyer and an interested seller, will this result in a permanent or temporary relocation or displacement of informal land users (people without legal rights to land) or unauthorized land occupants?			If the answer is "Yes", provide additional details
13	Will the project include any permanent or temporary restrictions on land use, or access to protected parks or areas, thereby forcing people or any community to lose access to natural resources, traditional habitats, communal lands or sites?			If the answer is "Yes", provide additional details
14	Will the project use government land or any public land or property that would require the permanent or temporary relocation of informal residents, or users (residential or economic)?			If the answer is "Yes", provide additional details
15	Will the rehabilitation of the irrigation system lead to a temporary restriction of access to irrigation water for downstream farmers?			If Yes, indicate the number of farms affected and the duration of the restriction
16	Will the construction of a new ALC (in GBAO, RRS or Khatlon region) lead to the alienation of land or restriction of land use?			If yes, provide additional details
17	Will the distribution of seeds, fertilizers and/or small agricultural machinery to vulnerable households be carried out in accordance with transparent criteria for the selection of beneficiaries?			If No, the activity cannot be approved
18	Will the rehabilitation of the irrigation system lead to an impact on protected natural areas or aquatic ecosystems?			If yes, provide additional details

Social Development Specialist confirms that the allocated land/proposed subproject

Has an impact on involuntary displacement (IDP), a resettlement action plan is required
Will not have an impact on involuntary displacement (IDP)

Filled in (full name and contact details): _____

Signed: _____ Date: _____

Annex 3: INDICATIVE OUTLINE OF THE CONTENT OF ESMF

If an environmental and social impact assessment is prepared as part of an environmental and social assessment, it will include the following:

(a) Summary

- Briefly discusses significant findings and recommended actions.

(b) Legal and institutional framework

- Review the legal and institutional framework of the project under which the environmental and social assessment is being carried out, including the issues set out in paragraph 26 of the ESS1[53]
- Compares the existing environmental and social structure of the borrower and the ESS and identifies gaps between them.
- Identifies and evaluates the environmental and social requirements of any co-financiers.

(c) **Project description**

- Briefly describes the proposed project and its geographical, environmental, social, and temporal context, including any off-site investments that may be required (e.g., designated pipelines, access roads, electricity, water, housing, and storage facilities for raw materials and products), as well as the main suppliers of the project.
- In reviewing the details of the project, points out the need for any plan to meet the requirements of ESS1 to ESS10.
- Includes a map with sufficient detail showing the project site and area that may be affected by the direct, indirect, and cumulative impacts of the project.

(d) **Input**

- Details key data that is relevant to decisions about project location, development, operation, or mitigation measures. This should include a discussion of accuracy, reliability, and data sources, as well as timeline information related to project definition, planning, and implementation.
- Identifies and evaluates the amount and quality of available data, key data gaps, and uncertainties related to forecasts.

[53] 27 ESA 1, paragraph 26 states that environmental and social assessment takes due account of all issues relevant to the project, including (a) the country's applicable policy framework, national laws and regulations, and institutional capacities (including implementation) with respect to environmental and social issues; differences in the country's circumstances and project context; country studies on environmental or social issues; national environmental or social action plans; and the country's obligations directly applicable to the project under relevant international treaties and agreements; (b) the applicable requirements under the ESA; and (c) the EPA and other relevant international industry best practices (IPSPs).

- Based on current information, estimate the size of the study area and describe the relevant physical, biological and socio-economic conditions, including any changes expected prior to the start of the project.

- Takes into account current and anticipated development activities in the project area, but is not directly related to the project.

(e) **Environmental and social risks and impacts**

- Takes into account all relevant environmental and social risks and impacts of the project. This will include the environmental and social risks and impacts specified in ESS2-8, as well as any other environmental and social risks and impacts arising from the specific nature and context of the project, including the risks and impacts specified in paragraph 28 of ESS1.

(f) **Mitigation measures**

- Identify mitigation measures and significant residual negative impacts that cannot be mitigated and, to the extent possible, assess the acceptability of these residual negative impacts.

- Identifies differentiated measures to ensure that adverse impacts do not fall disproportionately on low-income or vulnerable populations.

- Assesses the feasibility of mitigating environmental and social impacts; capital and operating costs of proposed mitigation measures and their suitability in local contexts; and institutional, training and monitoring requirements for proposed mitigation measures.

- Identifies issues that do not require further attention, providing the basis for this definition.

(g) Analysis of alternatives

- Systematically compares possible alternatives to the site, technology, development and operation of the proposed project, including the "no-project" situation, in terms of their potential environmental and social impacts.

- Assesses the feasibility of environmental and social mitigation alternatives; the capital and operating costs of alternative mitigation measures and their suitability in local conditions; and institutional, training and monitoring requirements for alternative mitigation measures.

- For each alternative, to the extent possible, quantifies environmental and social impacts and, where possible, assigns economic values.

(h) Measures to develop

- Establishes the basis for the selection of a specific proposed project development and identifies the applicable EPR or, if the EPR is found to be inapplicable, justifies recommended emission levels and pollution prevention and reduction approaches that are consistent with the EPR.

(i) Key measures and actions for the Environmental and Social Commitment Plan (ESSP)

- Summarizes the key measures and actions, as well as the time frame required for the project to comply with the requirements of the ESA. This will be used in the development of the Environmental and Social Commitment Plan (ESPA).

(j) Applications

- A list of persons or organizations that have prepared and contributed to environmental and social assessment.
- References – a list of written materials used, both published and unpublished.
- Record meetings, consultations, and surveys with stakeholders, including affected people and other stakeholders.

The record identifies the means of such stakeholder engagement that were used to obtain the views of affected people and other stakeholders.

- Tables that present relevant data related to or summarized in the main text.
- A list of related reports or plans.

Annex 4: ENVIRONMENTAL AND SOCIAL PLAN (example)

General Notes. If an ESA is required, the ESA should be an annex to the ESM. For smaller activities, only the ESMP or the ESM checklist is required. The Environmental and Social Mangement Plan (ESMP) should specify the mitigation, monitoring and administrative measures to be taken during the implementation of the project in order to avoid or eliminate negative environmental and social impacts

Description of the Environmental and Social Plan

The Environmental and Social Managment Plan (ESMP) identifies possible and cost-effective measures that can reduce potentially significant adverse environmental impacts to acceptable levels. The plan includes compensatory measures if mitigation measures are not feasible, cost-effective or insufficient. In particular, the EIA (a) identifies and summarizes all expected significant adverse environmental impacts (including impacts related to indigenous peoples or involuntary resettlement); (b) describes, in technical detail, each mitigation measure, including the type of impact to which it relates and the conditions under which it is required (e.g., permanently or in the event of unforeseen circumstances), together with designs, equipment descriptions, and operating procedures, as appropriate; (c) assesses any potential environmental impacts of these measures; and (d) provides a link to any other mitigation plans (e.g., for involuntary relocation, indigenous peoples, or cultural property) required for the project.

Monitoring

Environmental monitoring during project implementation provides information on key environmental aspects of the project, in particular the environmental impact of the project and the effectiveness of mitigation measures. Such information allows the borrower and the Bank to assess the success of mitigation as part of the project supervision and allows corrective actions to be taken if necessary. In this way, the PIA defines the monitoring objectives and determines the type of monitoring linked to the impacts assessed in the EA report and the mitigation measures described in the EIP. In particular, the MEP monitoring section provides (a) a specific description and technical details of the monitoring measures, including the parameters to be measured, the methods to be used, sampling locations, frequency of measurements, detection limits (where appropriate), and the definition of thresholds that will signal the need for corrective action; and (b) monitoring and reporting procedures to (i) ensure early detection of conditions that require specific mitigation measures, and (ii) provide information on the progress and results of mitigation.

Capacity development and trainings

To support the timely and effective implementation of environmental project components and mitigation measures, the EIP builds on the EA of the existence, role and capacity of environmental units on site or at the agency and ministry level. If necessary, the EIA recommends the establishment or expansion of such units and the provision of training for staff to ensure that the recommendations of the EI are implemented. In particular, the EIA contains a specific description of the institutional arrangements – who is responsible for the implementation of mitigation and monitoring measures (e.g. operation, supervision, enforcement, monitoring of implementation, remedial measures, funding, reporting and training of staff). To strengthen the environmental management capacities of the agencies responsible for implementation, most PIPs cover one or more of the following additional topics: (a) technical assistance programmes, (b) procurement of equipment and materials, and (c) organizational changes.

Implementation schedule and cost estimate

For all three aspects (mitigation, monitoring and capacity development), the EIP provides (a) a timetable for the implementation of the measures to be implemented as part of the project, with milestones and coordination with the overall project implementation plans; and (b) estimates of capital and operating costs, as well as sources of funds for the implementation of the EIP. These figures are also included in the overall project cost tables.

Integration of the WRP with the project

The borrower's decision to proceed with the project and the Bank's decision to support it are based in part on the expectation that the PIA will be effectively implemented. Consequently, the Bank expects the plan to contain a specific description of the individual mitigation and monitoring measures, as well as the allocation of institutional responsibilities, and it should be integrated into the overall planning, design, budget, and implementation of the project. This integration is achieved by establishing the PIA within the project, so that the plan will receive funding and oversight along with other components.

The model divides the project cycle into three phases: construction, operation and decommissioning. For each phase, the preparatory group identifies any expected significant environmental impacts based on the analysis carried out in the context of the preparation of the environmental assessment. Mitigation measures must be identified and listed for each impact. Estimates of the costs of mitigation actions are made according to the estimates for installation (investment costs) and operation (operating costs).

A monitoring plan is needed to track the requirements, responsibilities and costs of monitoring the implementation of environmental mitigation measures identified in the analysis included in the environmental assessment. **The format of the monitoring plan** is presented in **Annex 4** and includes a line for basic information, which is crucial to achieve reliable and reliable monitoring. The key elements of the matrix are as follows:

- What is being tracked?
- Where is monitoring carried out?
- How should the parameter be controlled to ensure meaningful comparisons?
- When and how often is monitoring necessary or most effective?
- Why is the parameter being tracked (what does it tell us about the environmental impact)?

In addition to these issues, the costs associated with monitoring (both investment and ongoing) and institutional responsibilities need to be identified.

When a monitoring plan is developed and put in place in the context of project implementation, the PMU will request reports at appropriate intervals and include the results in its periodic reporting to the World Bank and provide the results to Bank staff during project oversight missions.

Format of the Environmental and Social Plan

Phase	**Environmental Impact**	**Mitigation measure(s)**	**Costs**		**Institutional responsibility**		**Notes**
			Installation	Operation The Turkish	Installation	Operation	
Construction							
Operation							
Decommissioning							

EXAMPLE OF AN ENVIRONMENTAL AND SOCIAL MONITORING PLAN

PHASE	**WHICH** parameter is to be monitored?	**WHERE** will the parameter be monitored?	**How** will the parameter be monitored?	**WHEN** will the parameter be monitored? (frequency)?	**WHY** is the parameter monitored?	**COST**	**RESPONSIBILITY**
Design	Implementation of the WASP Guidelines (RECOMMENDATIONS)	Design of the project for construction, restoration and adaptation.	Review ofdevelopments and adaptation projects.	Pre-approval of construction within the framework of Programs for project monitoring.	Recommended in in accordance with National legislation, requiring building permits.	Should be part of the project costs	CEP, Designer, Contractor
	Resettlement impacts and risks	Targets	Social expertise on the proposed objects	After the completion of the development of technical projects	There must be compliance with ESS 5	Project management costs	MCC of the Ministry of Agriculture/Regional Project Offices (ROP)
Construction	Parameters specified in the building permit - all special building conditions issued by various authorities	Main Projectdocumentation	Part of the regular inspection by the Committee for Environmental Protection (CEP) and the Construction Inspectorate	During construction and before the issuance of the operating permit	Regular review as required by the Legislation and if any public complaint is made to the CEP or the Building Inspectorate.	Included in the phase construction: contractor costs	PIU Protective Measures Specialist, CEP Inspectors and Construction Inspectorate
	Management of construction waste (including hazardous waste)	Accompanying Documentation on waste, which Transmitted competent Utility company	Part of the regular inspection by both the Environmental Protection Committee and the Building Inspectorate	After reporting on waste management	Required by waste regulations	Costs of the Committee for Environmental Protection and the Construction Inspectorate and small costs for the Contractor	Supervision Engineer, CEP Inspectors and Construction Inspectorate

PHASE	**WHICH** parameter is to be monitored?	**WHERE** will the parameter be monitored?	**How** will the parameter be monitored?	**WHEN** will the parameter be monitored? (frequency)?	**WHY** is the parameter monitored?	**COST**	**RESPONSIBILITY**
	Working conditions and contracts, occupational health and safety, MRL for employees	On-site observations, contractor's office	Site visits, desk analysis	During construction	There must be ESS2 compliance	Project management costs	MCC of the Ministry of Agriculture
	Community outreach, RJ	Neighboring Communities, EPR	Meetings with the population, RJ journals	During site visits	There must be ESS10 compliance	Project management costs	PCC and its regional offices
Operation	Waste management	On the basis of accompanying documents related to waste, which are submitted to the Committee for Environmental Protection	Reports to the Committee for Environmental Protection	After reporting on waste management to the Committee for Environmental Protection	Monitoring should be carried out in accordance with waste management regulations.	Costs of the project beneficiary and the Committee for Environmental Protection	Project Beneficiary, Competent Utility and CEP
	Community outreach, RJ	Neighboring Communities, EPR	Meetings with the population, RJ journals	During site visits	There must be compliance with ESS 10	Project management costs	PCC and its regional offices

Annex 5: ENVIRONMENTALAND SOCIAL PLAN CHECKLIST

ENVIRONMENTAL/SOCIAL SCREENING			
Whether the site activity will include any of the following:	**Activities**	**Status**	**Additional Links**
	Restoration of buildings	[ ] Yes [ ] No	See section **B** below
	New construction	[ ] Yes [ ] No	See section **B** below
	Customized wastewater treatment system	[ ] Yes [ ] No	See section **C** below
	Historic Building(s) and Districts	[ ] Yes [ ] No	See section **D** below
	Alienation of landor loss of fixed assets[54]	[ ] Yes [ ] No	See Section **E** below
	Hazardous or toxic materials[55]	[ ] Yes [ ] No	See section **F** below
	Impacts on forests and/or protected areas	[ ] Yes [ ] No	See section **G** below
	Medical Waste Management/Management	[ ] Yes [ ] No	See section **H** below
	Traffic and pedestrian safety	[ ] Yes [ ] No	See Section **I** below
	Working conditions and occupational health and safety	[ ] Yes [ ] No	See Section J below
	Occupational health and safety	[ ] Yes [ ] No	See Section K below
	Outreach and ITL	[ ] Yes [ ] No	See Section L below
	Public health and safety	[ ] Yes [ ] No	See Section M below
	AFS Related Issues	[ ] Yes [ ] No	See Section N below

ACTIVITIES	**PARAMETER**	**CHECKLIST OF MITIGATION MEASURES**
A. General Terms and Conditions	Notification of employees and labor protection	Local building and environmental inspectorates and communities have been notified of upcoming activities The public has been notified of the work through a notice in the media and/or in publicly accessible areas (including the work site) All legally required permits have been obtained for construction and/or restoration work All work will be carried out in a safe and disciplined manner to minimize the impact on neighboring residents and the environment. Workers' PPE will comply with international best practices (wearing helmets at all times, masks and goggles if necessary, seat belts and boots) A corresponding sign at the sites will inform workers about compliance with the basic rules and regulations.

[54]The project will only support the construction of new buildings if the construction does not result in the expropriation of the land, which will entail: compulsory expropriation of the land or the relocation of third parties using the land; loss of assets or access to assets; loss of sources of income or livelihood, regardless of whether the affected persons have to move elsewhere. Investors will be required to have ownership of the land and will also be required to prove that the land is not occupied or used even illegally at the time of application for the sub-project.

[55]Toxic/hazardous materials include and are not limited to asbestos, toxic paints, lead paint removal, etc.

B.General rehabilitation and/or construction works	Ambient air quality	During the destruction of the interior above the first floor, a technological garbage chute must be used Store demolition debris in a controlled area and spray water on top of such debris to reduce dust levels Suppress dust during pneumatic drilling/demolition of walls by continuously spraying water and/or installing dust screens in place Keep the environment (sidewalks, roads) free of debris to minimize dust generation Open burning of building materials/waste is prohibited at the site Excessive use of idling of construction machines on sites is prohibited
	Noise	Construction noise will be limited to a limited time agreed in the resolution During operation, the engine covers of generators, air compressors and other mechanized equipment should be closed and the equipment should be placed as far away from residential areas as possible
	Water quality	Appropriate erosion and sediment control measures, such as hay bales and/or silt grids, will be put in place at the site to prevent sedimentation in situ and prevent excessive turbidity in nearby streams and rivers.
	Waste management	Waste collection and disposal pathways and sites will be identified for all major types of waste expected from demolition and construction work. Mineral waste from construction and demolition will be separated from general waste, organic, liquid and chemical waste by sorting on-site and storing in appropriate containers. Construction waste will be collected and disposed of by properly licensed companies Records of waste disposal will be kept as evidence of good management, as foreseen by the project. Whenever possible, the contractor will reuse appropriate and viable materials (excluding asbestos)
C. Customized wastewater treatment system	Water quality	The approach to the management of sanitary waste and wastewater from construction sites (during installation or reconstruction) must be approved by local public authorities Before being discharged into receiving water, wastewater from individual wastewater treatment systems must be treated to meet the minimum quality criteria set by the national guidelines for wastewater quality and wastewater treatment New wastewater systems will be monitored (before/after)
D. Historic building(s)	Cultural heritage	If the building is a designated historic structure, very close to such a structure or located in a specific historic area, notification must be made and permits/licenses must be obtained from the local authorities, and all construction work must be planned and carried out in accordance with local and national legislation. It is necessary to ensure that provisions are put in place to ensure that artefacts or other possible "incidental finds" encountered during excavations or construction are noted and recorded. Responsible officials should also be contacted, with the subsequent suspension of work if finds are discovered.

E. Alienation of landor loss of fixed assets	The activity will be considered unacceptable	If the activity results in the expropriation of land, which entails: compulsory expropriation of land or the displacement of third parties using the land; loss of assets or access to assets; or loss of sources of income or livelihood, whether or not affected persons have to relocate elsewhere, it will not be financed.
F. Toxic materials	Asbestos management	If asbestos is located on a project site, mark it as a hazardous material Whenever possible, asbestos will be properly collected and sealed to minimize exposure Asbestos is treated with a wetting agent before disposal (if removal is necessary) to minimize asbestos dust Asbestos will be treated and disposed of by qualified and experienced technicians If asbestos material is stored temporarily, the waste must be securely sealed inside the enclosed containments and marked accordingly Recycled asbestoswill not be reused
	Toxic/hazardous waste management	Temporary on-site storage of all hazardous or toxic substances will be done in secure containers labeled with composition details, properties and handling information Boxes of hazardous substances should be placed in a sealed container to prevent leakage and leaching Waste is transported by specially licensed carriers and placed at a licensed facility. Paints with toxic ingredients or solvents, or lead paints will not be used.
G. Affected forests and/or protected areas	Security	All recognized natural habitats, wetlands and protected areas in the immediate vicinity of these activities will not be damaged or exploited, and all employees will be strictly prohibited from hunting, picking berries, fruits and mushrooms, deforestation or other destructive activities. Large trees should be surveyed and inventoried in the vicinity of the construction site. Large trees should be marked and cordoned off with fencing, their root system protected and any damage should be avoided Adjacent wetlands and streams should be protected from runoff from the construction site as part of appropriate erosion and sediment mitigation, including but not limited to hay bales and silt barrage Unlicensed logging, quarries or dumps will not be used in the surrounding areas, especially in specially protected natural areas.
H. Medical Waste Disposal	Infrastructure for medical waste management	In accordance with national regulations, the contractor shall ensure that newly constructed and/or rehabilitated medical facilities have access to adequate infrastructure for the treatment and disposal of medical waste; this includes (but is not limited to) the following: Special products for selected health care wastes (including contaminated "sharps", human tissues or fluids); and Appropriate storage facilities for medical waste have been established; and If the activity includes treatment in a hospital, there are appropriate disposal options
I Traffic and pedestrian safety	Direct or indirect hazards to public transport and	In accordance with national regulations, the contractor will ensure that the construction site is adequately protected and the traffic associated with the construction is regulated. This includes (but is not limited to) the following aspects:

	pedestrians in connection with construction activities	Signage, warning signs, barriers and rerouting traffic. The site will be clearly visible and the public alerted to all potential hazards Traffic management system and staff training, especially for facility access and heavy traffic at close range. Providing safe passages and crossings for pedestrians who are obstructed by traffic due to construction. Setting working hours on the site in accordance with local customs, for example, the movement of large types of transport during rush hours or during the movement of livestock should be avoided Active traffic management, trained and visible personnel at the site, if necessary for safe and convenient passage for the public. Ensuring safe and uninterrupted access to office space, shops and residential areas during renovation work, as long as the buildings remain open to the public.
J. Working conditions	Child and forced labour, working conditions, MRM for workers	*Employment Relations*: The workers involved are considered to be the contractor's workforce, so the following requirements must be met: - Child labor (children under 18 years of age) to perform any type of work on the site is completely prohibited; - The involvement of community members in community service using the hashar method is prohibited; - The contractor enters into an agreement with each employee who will have rights and obligations in compliance with labor standards, that is, • 8-hour working day, and if it exceeds the established time, take into account additional time with appropriate payment; • 40-hour work week; • 1 hour for a lunch break; - The contractor is obliged to sign with each employee a code of conduct in accordance with international practice, which must be observed, otherwise employees may be dismissed and proportionate financial penalties may be imposed; - To raise awareness of employees about the general principles of organizing interaction with the local population; - Arrange for employees to have access to toilets and places for washing hands, which should be provided with hot and cold water, soap and a hand dryer in sufficient volume; - Develop a system for handling employee complaints. *Living conditions:* Taking into account the fact that the planned work is of a short-term nature, unskilled workers should, if possible, be hired from among the local population, and women should be hired for light work. If local workers are to be employed, it is not necessary to provide jobs for temporary residence, but it is necessary to provide them with proper conditions (sleeping quarters, kitchen, showers, toilets, etc.). If workers from other regions or cities and villages who do not have their own housing at the place of repair work are involved in the work, then the contractor is obliged to provide them with housing.

		Housing must be provided under the following conditions:central power supply - Bedrooms with beds; - Kitchens with the possibility of cooking, food storage; - Sanitary conditions (shower or bath, toilet, place where you can wash clothes); - In the cold season - the presence of heating; - Central power supply.
K. Occupational health and safety	Covid-19 prevention measures, safety measures	*Health protection*: - A first aid kit must be available at the construction site to provide first aid to injured persons. - Daily temperature measurement of workers before starting work on the construction site. - Regular activities with all employees at the construction site regarding compliance with COVID-19 prevention requirements; *Worker safety:* - Conduct a safety briefing before the start of each type of work and regularly check compliance with safety regulations. - Provide special clothing (masks, gloves and goggles, helmets and safety shoes for repair work), personal protective equipment, tools, materials; - Provide the necessary equipment for high-altitude work (temporary fences, safety belts and ropes, etc.)
L. Community outreach	Public relations and grievance mechanism	The contractor will appoint one of its employees as a contact person responsible for communication with the local population, as well as for receiving complaints/appeals from the local population. The contractor is obliged to consult with the local population to resolve conflict situations between interested parties, including between workers and the local population. Inform the surrounding population about the schedule of repair work. Limit construction work at night. Ensure that a grievance mechanism is in place for stakeholders and that information is communicated to them.
M. Public health and safety	Exposure to hazardous agrochemicals	Prepare a pest management plan, taking into account the specifics of each site, consult on them and make them public. Conduct awareness-raising campaigns for farmers and their families who are engaged in manual labour in pesticide-treated areas and may be severely affected by direct spraying, transfer from neighbouring fields or contact with pesticide residues on crops or soil.
N. AFS Related Issues	Hazards associated with AFM	Prepare an asbestos management plan, consult on it and make it public if an AFM is detected (see an example of an AFM management plan in subsection N below).

Subsection N. ASM MANAGEMENT PLAN (example)

Introduction

1. The Asbestos-Containing Materials Management Plan (hereinafter referred to as the ASMS) describes and assesses the risks of contractors (as well as others) discovering asbestos-containing materials (hereinafter referred to as ACMs) on construction sites during the implementation of the project; and the plan provides procedures for the prompt and safe handling of any ACMs that may be detected.

Risk assessment

Risk

2. Asbestos is a naturally occurring fibrous material widely used in buildings and other infrastructure in the 20th century; the material is durable, resistant to heat and fire. Asbestos was mainly used in the production of slate sheets, asbestos-cement (AS) pipes, as well as in some parts of cars. The danger of asbestos to human health began to be widely recognized at the beginning of the 20th century, starting in the 1980s, an increasing number of countries that began to restrict and then ban its use. Currently, the supply and use of AFM is prohibited in most countries of the world, although it is not yet prohibited in the Republic of Tajikistan.

3. Inhalation of asbestos fibres can lead to serious and fatal diseases, including lung cancer, mesothelioma (cancer of the lining of internal organs), asbestos pneumoconiosis (inflammatory lung disease). Health risks usually increase with long-term and repeated exposure, however, the US Occupational Safety and Health Act (hereinafter referred to as the Occupational Safety and Health Act) states that there is no "safe level of exposure" for any type of asbestos fibres[56].

4. In the workplace, the risks are usually greatest if AFM work is carried out in buildings or other enclosed spaces, or where the material is dry, old or degraded. This is because the collapsing AFM, as well as the cut or chipped edges of even new material, can be fibrous (when the fibres are easily delaminated), especially when touched.

C. Immediate action

5. If an AFM is found at the facility, the Contractor must take the following actions:

a) Stop all work within a radius of 5 meters from the AFM site, evacuate all personnel from the territory of this area;

b) Mark the border of the territory within a radius of 5 meters with a columnar safety fence, signal tape and clearly visible warning signs announcing the presence of asbestos;

c) Inform the project engineers, as well as environmental supervision specialists, in order to immediately organize an inspection of the facility.

6. The Project Management Center should:

Notify the State Service for Sanitary and Epidemiological Surveillance.

D. Equipment

[56]Health and Safety Management. U.S. Department of Labor. "Safety and Health Issues: Asbestos." (2014)
Scammeritz, E., et al. "Asbestos Effects and Survival in Malignant Mesothelioma: A Description of 122 Consecutive Cases in the Occupational Clinic." International Journal of Occupational and Environmental Medicine (IWMTOS), Vol. 2, No 4 October 2011.

7. To remove asbestos from a construction site, the contractor must be provided with the following equipment:

- Signal tape, strong fence posts and warning signs;
- Shovels;
- Water supply and hoses with garden sprinklers;
- A bucket of water and rags;
- Bags made of transparent durable polyethylene with ties;
- Containers for asbestos-containing waste (empty, clean, sealed metal barrels with a clear designation - "containing asbestos")).

E. Personal Protective Equipment (PPE)

8. All personnel involved in the process of handling the AFM must be dressed in the following clothing, which must be provided by the contractor:

- Disposable coveralls with hood;
- Shoes without laces;
- The new gloves are made of durable rubber;

Respirators are usually not required if only a few fragments of ACM are present in a small area, and if the ACM is in a humid environment.

- In a large area with severe contamination, a respirator (not dust masks) with a protection factor of 20 or more (e.g., a respirator with an RZ filter) is required;

It is forbidden to smoke, eat or drink on items containing ACM contents.

F. To prepare a work object

9. These procedures should be followed when handling AFM pipes (which include cutting, drilling, clamping, etc.) to minimize fibre emissions during work activities. All workers, technicians and bystanders should understand the requirements of these procedures before performing any work on AFM sheets. The supervisor should be responsible for coordinating activities to ensure the use of personal protective equipment when necessary.

10. Before entering (exiting) from the working area, changing rooms for personnel should be organized, equipped with airtight containers for storing contaminated disposable coveralls. Contaminated clothing should be disposed of. Reuse and cleaning with compressed air is prohibited.

11. Protective tape with the following warning should be wrapped around the work area at all entrances to the work area, using fasteners to hold it in place (such a guard should be installed immediately before any work is performed):

- ATTENTION ASBESTOS
- UNAUTHORIZED ENTRY IS PROHIBITED

- ENTRANCE ONLY IN RESPIRATORS AND PROTECTIVE CLOTHING.

12. Workers should have (at a minimum) a semi-facial respirator with combination cartridges for particulate matter (P100) and organic vapour (OV). Disposable respirators are not allowed. Workers should check and clean their respirators before each use. Workers should be tested for physical fitness and properly trained in the use, limitations and maintenance of their respirators.

13. Labeled asbestos garbage bags should be accessible and placed in the work area to dispose of protective coveralls and contaminated waste such as sponges and rags.

14. In construction sites, an individual site must be allocated for the removal of garbage from demolition work. Containers for temporary storage of asbestos-containing waste must be closed with a tight-fitting lid and have the appropriate "asbestos" marking.

G. Disposal

15. AFMs, if any, should be disposed of safely at a local hazardous waste disposal site, if available, or at a municipal landfill after prior arrangement for safe storage with the site operator.

a) The contractor shall ensure that the operator of the disposal site collects the sealed asbestos waste containers, if any, as soon as possible and stores them intact at the disposal site.

b) Upon completion of construction, contractors must ensure that the disposal site operator buries all AFM containers in a separate pit of suitable size, covered with a layer of clay at least 250 mm deep.

I. Individual sanitization

16. At the end of each day, all personnel involved in the handling of AFM must comply with the following decontamination procedure:

a) At the end of the decontamination operation, thoroughly clean the boots with damp cloths;

b) Remove disposable coveralls and plastic gloves turned inside out and place them in a plastic bag along with the rags used to clean shoes;

c) If a disposable respirator was used, place it in a plastic bag, close it and place it in an asbestos waste container;

d) All personnel should wash thoroughly before leaving the facility, after which the washing area should be wiped with damp cloths, which should be placed in plastic bags as above.

J. Registration and verification

17. Decontamination should be carried out under the supervision of the curators of the facility (engineers or ecologists).

18. Upon successful completion of decontamination and disposal, the curator of the object should visually inspect the object and sign the operation if the object has been cleaned satisfactorily.

19. The contractor must send a copy of the Notice of Completion to the Project Control Center with photos of the operation in progress and the facility upon completion.

J. Trainings

20. An environmental specialist can hire specialized companies to conduct training on the implementation of the AFMS for the personnel of contractors, RCCPs and PCCs. The training will include a session on AFM, which covers:

- Risks of contact with ACM;
- Responsibilities for interaction with ACM at the construction sites of the project;
- Project PMMP and Facility Clean-up Protocol;
- Increasing the awareness of the contractor workforce.

Annex 6. LIST OF CHEMICAL AND BIOLOGICAL SUBSTANCES PERMITTED FOR USE IN TAJIKISTAN BY THE COMMISSION ON CHEMICAL SAFETY[57]

Insecticides and acaricides			
Actellic (pyrimiphosmethyl) Ambuf (permethrin) Antio (25%) (formotion) Apollo (clofencysin) Applod (buprofesin) Arrivo (cypermethrin) Benzophosphate (30%) (fosalone) Be-58 (dimethoate) Vismethrin (permethrin) Volaton (Foxim) Hexasulfan (endosulfan) Danitol (phenopatrine) Decis (deltamethrin) Dilor (betadihydroheptachlorine)	Dimilin (diflubenzuron) DNOC (dinitroorthocresol) Zolon 35%, 30% (fosalone) Incegar 25% (phenoxycarb) Karate 5% (lambdasihalothrin) Karbofos 50% (malathion) Croneton 50% (etiofencarb) Mavrik 2E 25% (fluvalinate) Calcium polysulfide Mezox 25%, 50% (methoxychlorine) Mitak 20% (amitras) Neoron 50% (bromopromylate) Nosoran 10% (hexytiazox) Nitrafen 60% (nitroalkylphenolate)	Sulphur Omite 30%, 57% (Propargite) Oil Ripcord 40% (cypermethrin) Rovicurt 25% (permethrin)Sanmit 20% (pyridaben) Sonnet 10% (Hexafluron) Sumi-alpha (esfenvalerate) Sumiticin (fenvalerate) Talstar 10% (Diphentrine) Thiodane 35%, 50% (endosulfan) Trebon 30% (etofenprox) Festac 10% (alphamethrin) Fenval 20% (fenvalerate)	Fenrio 20% (fenvalerate) Fosalone 35% (Fosalone) Phosphoamide 40% (dimethoate) Fury 10% (zetamethrin) Hostaquac 50% (heptenophos) Simbush 25% (cypermethrin) Syperkyl 25% (cypermethrin) Sitcor 25% (cypermethrin) Sherpa 25% (cypermethrin) Aim 12% (chlorfluazuron) Ekamet 50% (ethrinphos) Endocel 35% (endosulfan)
Fungicides			
Alto 40% (Cyproconazole) Arceride 60% (metalaxyl + polycarbicicin) Afugan 30% (pyrazophos) Bayleton 25% (triadimephone) Boricide 70% (sulfur + polycarbice) Vitaxide 70% (oxadixil + polyhol) Derosal 50% (Carbedazim) DNOC 40% (dinitroorthocresol)	Caratan FN-57b8b 25% (Dinocap) CMAC 50% (2-Carbomethoxyaminoquinazole) Copper Sulphate 98% (Copper Sulphate) Green sulfate (ferrous sulfate) Calcium polysulfide Sulfatimide + Calcium Hydroxide Nitrafen 60% (citroalkylphenolate)	Oxyhome (oxadixil + copper oxychloride) Sulfur Polyhome 80% (polycarbacin 60% + copper oxychloride) Ridopolychom 60% (metalaxil + polycarbacin) Saprol 20% (triforin)	Score 25% (diphenconazole) Sportac 45% (prochlorase) Tilt 25% (propiconazole) Topaz 10% (penconazole) Topcin-M 70% (thiofanatemethyl) Copper Oxychloride 90%, 50% Euparen 50% (Dichlorfluand)
Chemicals for seed treatment			

[57]Approved by Resolution No. 4 of the Commission on Chemical Safety of the Republic of Tajikistan, June 11, 2004

Agrocyte 50% (Benomaly) Apron 35, 38.9% (metalaxyl) Baytan 15% (triadimenol) Botran 75% (dichloran)	Bronotak 12% (Bronopol) Vandidate 98% (vinyloxyethyldithiocarbamate potassium) Vitavax 75% (carboxyn)	Derosal 50% (carbendazim) Nitrafen 60% (nitroalkylphenolate) Polycarbicin 80% (ethylene bisdithiocarbamine salt complex + ethylene thiur disulfate, 1:8)	Sumi-8 2% (diniconazole) TWT 80% (tiram) Formalin 40% (formaldehyde) Fundazol 50% (benomyl)
Biological chemicals			
Agri 50% (deltaendotoxicin, biluza, turingis) Bactospein (Bisilus turingis) Bitoxybacillin (exotocin bisilus turingis) Virin-OS (granulosa virus + autumn warm polyhedrosis virus)	Gomelin (Bisilus turingis) Dendrobacillin (Bisilus turingis, a type of Dendrolimus) Dipel (Bisilus turingis, a type of kurstaka)	Lepidocide (Bisilus turingis, a type of kurstaka) Trichodermin (Trichoderma, Trichodermin, Veridin, Glycoxil) Trichodermin-BL (--»--)	Thuringin-1 (exotoxin of Bisilus turingis, a variety of teringensis) Turingin-2 10% (bisulisa turingis exotoxin, a variety of turingis) Uricide (bisilus turingis)
Herbicides			
Alirox 80% (ERTS) 72% + antidote AD-67) Acenit 50% (acetochlor) Bazagran 48% (Bentazone) Banwel 48% (dicamba) Basta 20% (ammonium glufosinate) Gazargard-50, 50% (promethrin) Dalapon 85% (Dalapon) Dual 96% (metalochlor) Zellec 12.5% (galoxyphonethoxetyl) Zellec super, 12.5% (galoxyphonethoxyethyl)	Zencor 70% (metribuzin) Kotoran 80% (Fluometeron) Cotophor 80% (dipromethrin) Cuscid 97% (diethylene glycol monochloroacetate) Nitrane 30% (trifluralin) Olithref 25% (trifluralin) Ordam 6E 72% (molinate) Butternut 80% (dipromethrin) Penitran 33% (pendimethalin)	Proemethrin 50% (Promethrin) Pripinate 85% (Dilapone) Rizan 50% (bentiocarb) Rosaline 50% (5-chloro-2-methylbenzimidazole) Saturn 50% (bentiocarb) Sonalan 33% (ethalfluralin) Stomp 33% (pendimethalin) Totril 22.5% (ioxinyl) Treflon 24% (trifluralin)	Fluometuron 80% (Fluometeron) Fusilade 25% (fluazifonbutyl) Eradican 6E 72% (ERTS 72% + antidote) Yalan 60%, 10% (molinate) Sherpa 25% (cypermethrin) Aim 12% (chlorfluazurin) Ekamet 50% (Etrimphos) Endocel 35% (endosulfan)
Defoliants and desiccants			

Basta 14% (ammonium glufosinate) Butylcaptax 80% (butylcaptax-2-n-butylbenzothianazole + MSF+magnesium chlorate)	Hemetrel 60% (Chloroethylphosphonic acid derivatives) Dropp 50% (tidiazuron) Drop Turbo 20% (Thidiazuron)	Three-Urea Sodium Chlorate Hayot 85% (Calcium Diaquatetracarbamide Chlorate) Harveyd 25 F (dimedipine)	Magnesium Chlorate 60% Calcium chlorate chloride 42%, 62%

Annex 6.1. WHO Classification of Pesticides Prohibited for Use[58]

Table 1. Highly toxic pesticides prohibited for use

Aldicarb - Алдикарб	Chlorophacinone	Fjnofos	Parathion-methyl
Brodifacoum	Difenacoum	Hexachlorobenzene	Phenylmercury acetate -
Bromadiolone - Bromodiolone	Difethialone	Mercuric chloride	mercuric phenyl acetate
Bromethalin - Brometalin	Diphacinone	Mevinphos	Phorate
Calcium suanide-cyanide	Disulfoton	Parathion	Phosphamidon
Calcium	Ethoprophos		Sodium F1uoroacetate Sodium
Captafol	Flocoumafen		Fluoroacetate
Chloretoxyfos			Sulfotep
Chlormephos			Tebupirimfos
			Terbufos

Table 2. Pesticides of moderate toxicity prohibited for use

Acrolein	Demetol 1-C-methyl	Isoxation	Pindong
Allyl alcohol	Dichlorvos	Lead Arsenate	Pyrimifos-ethyl
Azinphos-methyl	Dicrotophos	Mekarbam	Propathos
Azinphos-methyl	Dinoterbus	Mercuric oxide	Propetamphos
Blasticidin-S	Edinfenfos	Metamidophos	Sodium Arsenite
Butocarboxyme	Etiofencarb	Metidathion	Sodium cyanide
Butoxycarboxyme	Famfur	Methiocarb	Strychnine
Kadousafos	Phenamyphos	Methomil	Teflutrin
Calcium Arsenate	Flucythrinate	Monocrotophos	Thallium sulfate
Carbofuran	Fluoroacetamide	Nicotine	Thiofanox
Chlorfenvinphos	Formtanate	Ometoate	Thiometon
3-Chloro-L,2-Propanediol	Furatiocarb	Oxamil	Triazophos
Koumathos	Heptenophos	Oxydemetone-methyl	Wamidotion
Coumataryl	Izazophos	Paris Green {C}	Warfarin
Zeta-cypermethrin	Isofenphos	Pentachlorophenol	Zinc phosphide

[58]World Bank Project on Land Registration and Cadastral System for Sustainable Agricultural Development, 2010

Table 3. Pesticides with moderate toxicity prohibited for use

Alanikarb	Surennalotrin	Phentate	Metasulfocarb
Anilovos	Surennethrine	Fosalon	Methyl isothiosuanant
Azaconazole	Alpha-cypemletrin	Foxim	Metolkarb
Azocyclotine	Surchenoethrine	Piperophos	Metribuzin
Bendiocarb	Detlathrin	Pyrimicarb	Molinat
Bensulid	Diazinon	Praletfin	Nabam
Bifentrin	Difenzoquat	Prophenophos	Ice
Bilanaphos	Dimethoate	Propiconazole	Pyroquilon
Bioallethrine	Dinobuton	Propoksur	Quinalfos
Bromoxinyl	Diquat	Prosulfocarb	Quizalofop-p-tefuril
Brobuconazole	Endosulfan	Prothiophos	Rotenon
Bronopol	Endothal Sodium	Pyraclovos	Sodium fluoride
Butamiphos	Esfenvalerate	Pyrazhophos	Sodium hexafluorosilicate
Butylamine	Ethion	Ruretrins	Spiroxamine
Carbaryl	Etrimphos	Fuberidazole	Sulprofos
Carbosulfan	Phenythrotion	Gamma-NSN	Terbumeton
Kartap	Phenobucarb	Guazatin	Tetraconazole
Chloralose	Phenproridine	Haloxifop	Thiacloprid
Chlordane	Phenrroratrin	Heptachlor	Thiobencarb
Chlorphenarir	Fenthion	Imazalil	Thiocycles
Chlorphonium chloride	Fentin Acetate	Imidacloprid	Thiodicarb
Chlorpyrifos	Fentin hydroxide	Iminoctadine	Triazamate
Clomazon	Fenvalerate	Ioxinil	Trichlorphon
Copper sulfate	Fipronil	Ioxinyl Stanoate	Tricyclazole
Copper Oxide	Fluxophenim	Isoprocarb	Tridemorf
Suannazine	Formotion	Lambda-Ctnalotrin	Vemolat
Cyanophos	Paraquat	Mercuric chloride	Xylylcarb
Suflutrin	Pebulat	Metaldehyde	
Betta Suflutrin	Permethrin	Meta Sodium	
		Metakryphos	