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Combined Project Information Documents / Integrated Safeguards Datasheet (PID/ISDS)

Appraisal Stage | Date Prepared/Updated: 20-Feb-2017 | Report No: PIDISDSA20816



BASIC INFORMATION

A. Basic Project Data

Country Moldova	Project ID P155968	Project Name Climate Adaptation Project	Parent Project ID (if any)
Region EUROPE AND CENTRAL ASIA	Estimated Appraisal Date 21-Feb-2017	Estimated Board Date 03-May-2017	Practice Area (Lead) Environment & Natural Resources
Lending Instrument Investment Project Financing	Borrower(s) Ministry of Finance	Implementing Agency Ministry of Environment	

Proposed Development Objective(s)

The PDO is to enhance adoption of climate-resilient practices in agriculture, forestry and pasture management in targeted landscapes and strengthen national disaster management systems.

Components

- Climate-resilient Practices in the Agriculture Sector
- Climate-resilient Community Land Management
- Climate and Disaster Risk Management
- Project Management and Monitoring

Financing (in USD Million)

Financing Source	Amount
Global Environment Facility (GEF)	2.00
International Bank for Reconstruction and Development	18.60
International Development Association (IDA)	1.40
Total Project Cost	22.00

Environmental Assessment Category

B - Partial Assessment

Have the Safeguards oversight and clearance functions been transferred to the Practice Manager? (Will not be disclosed)

Yes

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Decision

The review did authorize the preparation to continue

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Other Decision (as needed)

B. Introduction and Context

Country Context

1. **Despite many years of solid economic growth and impressive poverty reduction gains, Moldova remains vulnerable to economic and financial shocks and political instability.** Moldova is a landlocked country between Romania to the west and Ukraine to the north, east and south. The country has a surface area of 33,840 km², and is home to 3.6 million people with a Gross National Income (GNI) per capita of US\$2,240 (Atlas methodology, 2015). In the context of overall economic growth, Moldova has made significant progress in reducing poverty and boosting shared prosperity. The economy was growing at 5 percent annually after 2000, and the national poverty rate (below US\$5 per day) dropped from 68 to 11.4 percent between 2000 and 2014. Public and private transfers, namely pensions and remittances, as well as labor markets had an important role in reducing poverty. The Moldovan economy, however, moved into recession in 2015 (-0.5 percent growth in GDP) because of weaker external flows, large-scale banks fraud, and a drought. Economic slowdown in Russia and Ukraine, together with Russia's restrictions on agro-food imports from Moldova sharply reduced remittances from these countries and halved Moldova's exports to Russia. Further, a banking crisis brought on by massive fraud in three banks has lowered confidence in the banking sector, leading to significant interest rates and reduced credit to the private sector. The monetary and fiscal resolution of the three insolvent banks (12 percent of GDP) has led to higher public debt and lower foreign exchange reserves, damaged business confidence and reduced macroeconomic buffers to sustain economic shocks.

2. **Poverty is concentrated in rural areas where livelihoods depend on agriculture and natural resources that are increasingly at risk due to climate change.** Moldova remains one of the poorest countries in Europe. Poverty (US\$5 or less per day) is largely a rural phenomenon as rural national poverty stands at 19 percent compared to 5 percent for urban areas. With 57 percent of the population living in rural areas, 84 percent of the poor are concentrated there. Those in rural areas, poor and non-poor, rely more on agriculture and remittances for income sources than their urban counterparts who derive more income from non-agricultural employment. For example, rural areas felt the impact of the 2007 drought much more than urban areas, with poverty rates increasing from 31 percent in 2007 to a peak of 36 percent in 2009. Stocks of agricultural products vanished in many rural households, and prices and expenditure in households' budgets for food and energy rapidly grew. Similarly, a severe summer drought in 2015, along with lower remittances and higher inflation, further pushed the poverty rate up to 41.9 percent. As the frequency of droughts and other extreme weather events is expected to increase due to climate change, lack of climate adaption measures and coping mechanisms will adversely impact food security, livelihoods and economic growth in vulnerable rural areas and further undermine progress made in poverty reduction.



Sectoral and Institutional Context

3. **Moldova is highly vulnerable to climate change especially in rural areas where the majority of poor live.** Moldova ranks as the most climate vulnerable country in Europe based on a range of social and economic indicators and faces a number of adaptation challenges, according to the widely used Notre Dame Global Adaptation Index (ND-GAIN¹). Climate models predict future mean temperature rises exceeding 2 degrees by mid-century, and a significant decline or slight increase in precipitation, depending on the region. Climate change is expected to increase the frequency and intensity of most extreme events and natural disasters (e.g. droughts and floods, as well as other severe weather events such as hailstorms, torrential rains, late frosts, heavy winds) and present new climate-related pest and disease challenges.² This will have important implications for economic growth, and especially for the rural poor, who are more dependent on natural resources and vulnerable to climate-related shocks with fewer resources to cope. Agriculture, water resources and forestry are among the sectors considered most at risk from climate change impacts, as are human health, energy and infrastructure. Agricultural productivity will significantly decrease due to increasing water stress on crops, even without accounting for the increasing impact of extreme weather events. Total water availability will fall below total demand within a couple of decades with implications for irrigation (which constitutes a vital input to improving resilience and therefore productivity of the agriculture sector). The productivity of Moldova's forests, whose estimated total economic value is USD66.77 million (2015), will also diminish and pathology (disease) patterns are expected to change. In addition, climate change will increase the vulnerability of people and assets to the impact of natural hazards and can significantly challenge the ability of a country to mitigate, prepare and respond to natural disasters.

4. **The present total cost of inaction on climate adaptation is estimated at around USD600 million, equivalent to 6.5% of GDP.** This value is expected to more than double in real terms by 2050 to around USD1.3 billion. In comparison, the direct costs of climate change by 2050 (i.e., the decrease in production caused by climate change, plus the increase in damage and costs of prevention) are expected to be of a similar magnitude at around USD1 billion, 70% of which are incurred in the agriculture sector (which faces the biggest challenges but also investment opportunities). While the costs of inaction cannot be completely eliminated, it can be significantly reduced by prioritizing and undertaking climate adaptation investments in key sectors and by improving the ability to manage climate and disaster risks, including preparing and responding more effectively and efficiently once a climate-related disaster occurs.

5. **Climate vulnerability in the agriculture sector.** Agriculture has traditionally been a key sector in Moldova's economy as Moldova's rich soils and mild climate are ideal for farming. The sector represents about 15.5 percent of Moldova's GDP (2014) with a current value of about 14.88 billion MDL (about US\$800 million, 2015). Agriculture employs nearly a third (28 percent) of the country's population, and agro-food exports account for roughly 50 percent of the country's total exports. Moldovan farms are largely dominated by small holdings of 0.8-10 ha. The sector is highly sensitive to weather conditions, and small-holders lack access to rural finance for investments to improve productivity and resilience in the sector. Access to irrigation, a vital input to the sector, is limited and only around 6 percent of the previous area (under Soviet times) is currently under functional irrigation. The average agricultural sector growth rate performance has been low at 3.6 percent per annum over the last 10 years, and most crop yields are around a quarter to a third lower than other Eastern

¹ The Notre Dame Global Adaptation Index (<http://index.gain.org/>) summarizes a country's vulnerability to climate change and other global challenges in combination with its readiness to improve resilience.

² World Bank. 2016. Republic of Moldova – Moldova Climate Adaptation Investment Planning Technical Assistance. Report No: ACS18562.



European countries. While irrigation for agricultural land is a vital component to ensure sustainable development of the sector, as vegetable and fruit growing, cereal and fodder crops, and animal breeding require permanent access to water, further investment and capacity are needed to expand the up-take of irrigation services.

6. In 2010 the Government of Moldova signed a Compact Agreement with Millennium Challenge Corporation (MCC) an initiative of the United States of America to support policies and programs that advance a country's progress in achieving sustainable economic growth and poverty reduction. The Moldova Compact Program (2010-2015) was the first opportunity for the country to rehabilitate some of the centralized irrigation schemes (CIS). Within the framework of the Transition to High Value Agriculture Project with a budget of around US\$80 million, the program reconstructed 10 CISs with a command area up to 11,728 ha with possible addition of another 3,500 ha within these schemes. The system cover 23 communities along Nistru and Prut River and will serve about 9,200 land users. Unfortunately, the program concentrated on bringing water to the hydrants only, while the on-farm development aspects were left to the farmers.

7. Climate change is expected to exacerbate existing challenges in the sector: Land degradation and soil erosion are projected to worsen (around 37 percent of all agricultural lands or 953,900ha (2015) are already degraded to some degree) and the productivity of most current crops may decline by 10-30 percent. The 2015 summer drought, an unprecedented extreme weather event in terms of severity and distribution, negatively impacted both agriculture and cattle herding and is expected to further contribute to the increase of rural poverty in the country, particularly for small to medium size farmers.³ Crop losses are also incurred from flooding, late frosts, hail and windstorms, all of which may worsen as a result from climate change. The expected annual cost of climate change impacts on the agriculture sector by 2050 is around USD700 million⁴. Climate-smart and sustainable agricultural technologies will be critical to increase the productivity and resilience of the agriculture sector and for managing future climate impacts.

8. **Climate vulnerability of forest and pasture lands:** While Moldova's forest cover is among the lowest (11 percent) in Europe, they provide critical habitat for biodiversity and other essential environmental benefits and services such as soil protection, water regulation and carbon sequestration. The forests are mainly broadleaved - oak, ash, hornbeam, black locust and poplar being the most significant species. Protective forest belts have a long tradition in Moldova, since 1947 when shelterbelts were first established to reduce soil erosion on agricultural land, and as riparian buffers for water sources and protection of transportation routes. The total extent of forest belts is 30,300 ha. The main species in forest belts are black locust (36%) and walnut (38%). Many areas are affected by illegal logging, abusive and uncontrolled grazing, waste pollution or other degradation factors. Different studies indicate that forest belts contribute to increased agricultural productivity. Pastures (land suitable for hay and grazing) occupy 14 percent of the total land used for agriculture in Moldova. Land degradation is evident in pasture areas and 48 percent are affected by different levels of degradation. The current productivity of pasture land has been estimated at 20-50 percent of its potential. Capacity for ecological restoration is limited and there is little awareness of the necessity to collect seed stands from provenances or genotypes that are more resilient to climate change. There is currently no capacity for

³ FAO drought assessment.

⁴ Calculated from the difference in future production under the climate change and no-climate change scenarios (roughly USD430 million, including USD235 million from crops and USD195 million from livestock) and the portion of the increase in damages and losses that are attributable to the increased frequency and extent of extreme events (roughly USD270 million).



containerized seedling production of any species.

9. Climate change is expected to further reduce the productivity of pastures and natural forests and change pathology patterns. The key climate change impacts up to 2050 are forecast to limit growth of tree species due to a decrease in water availability (different tree species will react differently, but native oak species are expected to fare better than non-native species) and increase the areas affected by pests (15 percent), the areas subject to drying (25 percent) and fire risk (30 percent), and soil erosion due to temperature increase, changes in precipitation and a reduction in year-round water availability. The greatest impact is expected to occur in the South (already the lowest forest cover at 8% of land area), followed by the Centre (with the greatest proportion of forests, 209,000 ha or 15% of total land area). Annual opportunity costs of inaction are estimated to be around US\$40 million, and to increase marginally over coming decades.

10. **Climate and disaster risk management and emergency response:** Moldova is exposed to a range of natural hazards, most of which are weather related. Current annualized costs of flooding are estimated to be around US\$60 million, and expected to increase by several times over the coming decades as flood frequency and the volume of assets at risk increase. Recent hail and rain storms (June 2016) showed that the country is not as well prepared to manage natural hazards as it aims to be. In particular, and as recently highlighted by the Prime Minister, local delivery and translation of early warning to early action, as well as effective response, need further strengthening. This requires not only bolstering of sub-national command structures and facilities/equipment, but also ensuring that local first responders, authorities, public services and businesses are better prepared.

11. **Government Programs, Policies and Institutions:** In 2014, the Government of Moldova, through the Ministry of Environment and with support of UNDP and the Government of Austria, developed and approved a National Climate Change Adaptation Strategy, reviewing climate change vulnerabilities in the six sectors considered most vulnerable: agriculture, water resources, forestry, human health, energy and infrastructure. The strategy includes an Action Plan to 2020, at an estimated budget of US\$155 million, based on institutional and investment activities recommended within each sector. Intended to serve as an umbrella strategy that creates the enabling environment for specific sectors and ministries to “mainstream” climate change adaptation and risk management in their existing and future strategies, its goal is to “assure that the Republic of Moldova’s social and economic development is less vulnerable to climate change impacts by becoming more resilient.” It recognizes that this will require a coordinated response across key sectors.

12. The National Plan for Afforestation (NPA) covers the period 2015-18 and envisages the afforestation of 13,000 ha (10,300 ha restoration of degraded lands and 2,700 ha of new riparian buffers and forest belts). Objectives of the NPA include increased sustainability of land resources managed by LPAs, improved landscape level climate resilience and improved public awareness concerning sustainable land use practices. The areas identified for action in the NPA are currently mostly owned by Local Public Authorities (LPAs) and have been included in the NPA based on proposals from local communities reflecting their willingness towards allocating degraded lands for landscape restoration. Since the NPA was approved in 2015, only limited areas (around 1,000ha) have in fact been afforested.



13. In 2016, the World Bank supported the Government to carry out a more systematic analysis⁵ of the costs of inaction within the most vulnerable sectors and the potential volumes and cost-benefit of physical investments for climate adaptation. It showed that the biggest challenges and investment opportunities are in agriculture, which includes scaling up adoption of irrigation (which has proved to be the most efficient way to address drought risks), through rehabilitation and modernization of centralized small-scale irrigation systems and drainage infrastructure, combined with institutional capacity-building for management of irrigation systems. Other options include soil management and climate risk management technologies (e.g., anti-hail nets), and the potential for changes in crop mix towards perennial crops (i.e., grapes and fruit trees), which will be more resilient to climate change. In forestry, areas for immediate interventions are ecological reconstruction of the present forest estate and the expansion of forest vegetation, including the creation of new forest shelter belts. On disaster risk management, a set of modest investments, such as for emergency prevention and preparedness and improving emergency response capabilities, is expected to provide key gains for public safety as well as substantial economic returns. The proposed project builds on the findings of the TA and will contribute to implementing some of the recommended adaptation investments.

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C. Proposed Development Objective(s)

Note to Task Teams: The PDO has been pre-populated from the datasheet for the first time for your convenience. Please keep it up to date whenever it is changed in the datasheet.

Development Objective(s) (From PAD)

The PDO is to enhance adoption of climate-resilient practices in agriculture, forestry and pasture management in targeted landscapes and strengthen national disaster management systems.

Key Results

D. Project Description

COMPONENT 1. Climate-resilient Practices in the Agriculture Sector (US\$9.16 million).

This component aims to enhance adoption of climate-resilient agriculture practices in selected rural landscapes by supporting: (i) scale-up of farmers' climate-smart agricultural (CSA) practices and provision of related-advisory services; and (ii) expanded up-take of irrigation services.

14. **Sub-component 1.1. Scale-up of Farmers' Climate Smart Agricultural Practices (US\$ 7.09 million).** Sub-component 1.1 will provide technical advisory services and matching grants to eligible farmers and agricultural producers, including rural households and private/agricultural entities to scale up successful climate adaptation measures on agricultural farmlands. The project will make available climate adaptation grants for on-farm climate-smart investments and technologies such as anti-hail protection, rain water/surface water harvesting, drip irrigation, greenhouse climate control systems; no-till and other soil conservation measures. It is anticipated that the great majority of grants will benefit farmers operating on small plots and will support

⁵ World Bank, Technical Assistance, Moldova Climate Adaptation Investment Planning (Oct 2016), Report No: ACS18562.



micro-investments for low-cost solutions with the remaining grants targeted at bigger, commercial farmers for small- and medium-size investments in more complex technologies. The grant size and co-financing ratio will vary depending on the type and size of investments: up to 90 percent of micro-investments with a grant size ceiling of US\$2,200; up to 70 percent of small-size investments with a grant ceiling of US\$20,000 and up to 50 percent of medium-size investments with a grant ceiling of US\$40,000. Eligibility criteria will include among others: (i) land titling rights; (ii) willingness to contribute financially; (iii) commitment to participate in capacity building activities; and (iv) willingness to provide access to the farm/site for knowledge and experience sharing. Extension services and matching grants will be delivered by the National Rural Development Agency (ACSA) given its experience and successful performance in managing similar grants in the agriculture sector under Bank-funded projects and its country-wide network.

15. **Sub-component 1.2. Expanded up-take of irrigation services (US\$2.07 million).** Sub-component 1.2 will provide equipment to WUAs to help their member-farmers access irrigation schemes that were recently rehabilitated under the US-funded Millennium Challenge Corporation (MCC). This activity will address the current lack of adequate and appropriate on-farm irrigation equipment (e.g. mobile aspersion irrigation machines with reel and console and a hydraulic turbine) that can satisfy the minimum pumping capacity requirement of the rehabilitated MCC schemes. This sub-component will also provide capacity building to WUAs to manage irrigation more effectively and improve their governance and management processes. Capacity building will be delivered by the Sustainable Development Account (SDA) Moldova, a public institution established to ensure sustainability of the MCC program. Finally, the sub-component will finance the review of current functions of Apele Moldovei to identify the required measures to enhance its role in monitoring and supporting WUAs.

COMPONENT 2. Climate-resilient Forest and Pasture Management (US\$7.33 million)

16. This component aims to improve climate resilience of forest and pasture lands through restoration and improved climate-smart management. The first sub-component focuses on afforestation⁶ and rehabilitation of degraded lands and pastures. The second sub-component will support provision of climate-adapted forest reproductive material (seeds and seedlings) and capacity building on ecological restoration of natural forests.

17. **Sub-component 2.1. Community Forest and Pasture Management (US\$4.56 million).** Activities will support integrated participatory forest and pasture management planning at the community-level (Local Public Authority, LPA), as well as investments in afforestation and rehabilitation of community lands and pastures in six priority rayons (districts). The project will finance LPA-level landscape mapping (i.e. land use “master plans”) and 10-year management plans for approximately 27,000ha of forest land and pastures that aim to a more efficient and sustainable use of these resources. Eligibility criteria for participating LPAs include, among others: willingness to participate, capacity and opportunity for collaboration with neighboring LPAs, and availability of suitable land. Investments in selected LPAs \ will include restoring approximately 700 ha of degraded pastures and 1,200 ha of other degraded communal land, as well as establishing and restoring 1,320 ha of agricultural or riparian shelterbelts. The planning process will be undertaken jointly by ICAS (Institutului de Cercetări și Amenajări Silvice)⁷ and the LPAs. Technical field work will be contracted to the State Forest Enterprises (SFEs) and private sector on a competitive basis.

⁶ Includes both reforestation and afforestation.

⁷ State forest research and management institute that has had previous experience with similar projects funded by the World Bank/BioCarbon Fund.



18. **Sub-component 2.2. Ecological Restoration of Degraded Forests (US\$2.77 million).** This sub-component will include establishment of a National Centre for Forest Genetics and Seeds (NCFGs) within ICAS to improve production capacity (both quantity and quality) of certified forest reproductive material mainly from native climate resilient species. The NCFGs will be responsible for: seed base management; regeneration material certification; seed processing and conditioning; production of containerized seedlings (nursery); and genetic research and *in vitro* multiplication. The project will specifically invest in containerized seedling production (annual capacity of approximately 1 million seedlings), equipment for processing seeds, nursery equipment, and laboratory equipment for quality assessment, as well as related civil works. Capacity building and training activities for the benefit of ICAS and Moldsilva staff will focus on nurseries, forest reproductive material, and climate-resilient ecological restoration, as well as hands-on practice through field trials and demonstration sites.

COMPONENT 3. Climate and Disaster Risk Management (US\$4.55 million).

19. This component aims to strengthen Moldova's climate and disaster risk management systems and, in the event of an eligible crisis or emergency, provide immediate financing to respond quickly to such emergency.

Sub-component 3.1. Improving climate-related disaster preparedness and response (US\$4.55 million). This sub-component aims to strengthen the capacity of national and regional Civil Protection authorities to prepare for and respond to extreme weather events linked to climate change by supporting (i) preparedness and response equipment and training (ii) modernization and upgrading of the Balti regional Emergency Command Center (ECC) to international standards. The provision of equipment and certified training, such as the renewal of fire and rescue units, will reduce critical response time and improve the safety and efficiency of interventions. A decrease of the environmental impact of emergency operations (due to more modern environmentally-friendly equipment), a more streamlined management process, and reduced maintenance costs are expected. The refurbishment of the regional ECC in Balti will provide redundancy and interoperability to the national emergency management system, ensuring a modern and continuous management of incidents of diverse scales at local and national levels, and will render a more efficient use of resources for emergency preparedness and response. The regional ECC will further facilitate joint disaster response with local agency representatives. Training of ECC staff will enhance crisis management decision-making processes, allowing CPSS to issue timely warnings and undertake prevention and response measures, including evacuating affected populations.

20. **Sub-component 3.2. Contingent Emergency Response Facility (US\$0 million).** The objective of this sub-component is to improve Moldova's capacity to better respond to disasters. Following an adverse natural or man-made event that causes a major disaster; the Government of Moldova may request the Bank to re-allocate project funds to this component to partially cover emergency response and recovery costs. This sub-component could also be used to channel additional funds should they become available as a result of the emergency.⁸

COMPONENT 4. Project Management and Monitoring (US\$0.96 million).

⁸ Such a reallocation would not constitute a formal Project restructuring (Including Contingent Emergency Response Components in Standard Investment Projects, Guidance Note to Staff, April 2009, footnote 6).



21. This component will finance the operating costs of a Project Management Team (PMT) housed within the Ministry of Environment (MOE) to carry out project management functions for the project. Support will be provided for procurement, financial management, coordination, reporting, and monitoring and evaluation. The PMT will be responsible for coordination among the implementing agencies to ensure smooth project implementation.

E. Implementation

Institutional and Implementation Arrangements

22. This multi-sectoral project will be implemented by the 3 ministries that are responsible for agriculture, forestry and civil protection respectively, under the oversight and coordination of the State Chancellery. The Ministry of Agriculture and Food Industry (MAFI) will implement Component 1 through ACSA, a service provider that will be contracted to manage the matching grant scheme and related capacity building to farmers; and through the agency SDA which will provide technical assistance and capacity building to WUAs. The Ministry of Environment (MOE) will implement Component 2 through the agency ICAS which will provide technical assistance to LPAs for the development of forest and pasture management plans; the implementation of forestry and pasture management work will be contracted competitively to local state forest enterprises and private contractor if available. The Ministry of Internal Affairs (MIA) will implement Component 3 through its Civil Protection and Emergency Response Service. An existing inter-ministerial Steering Committee (SC), chaired by the State Chancellery, will have the overall responsibility for coordinating and monitoring the implementation of the project and will be the highest-level counterpart for the World Bank.

23. *Overall Project Management:* An existing, well experienced Project Management Team (PMT) that was established in the Ministry of Environment (MOE) to implement Bank-funded projects will manage all fiduciary arrangements for the project. The PMT consists of the project manager, financial management officer, procurement specialist, project assistant and a driver. Additionally, safeguards and M&E specialists will be recruited specifically for this project.

24. The Project will be partly financed by a grant from the Global Environment Facility (GEF). The total GEF contribution is expected to be US\$2 million (not including agency fee), all coming from the land degradation focal area. GEF financing will support activities under Component 2 and particularly afforestation and rehabilitation of forest belts and degraded pastures (LD-1 Program 1) and preparation of integrated and consulted forest/pasture management plans for selected LPAs (LD-3 Program 4). As a crosscutting theme, GEF financing will also support investments in seedling production of native species which have higher climate resilience compared to currently dominant introduced species. GEF support to LPA owned lands will expand the area covered by modern management plans and improve the management of areas that currently are weakly managed and relatively degraded.

25. GEF contribution would contribute directly to Aichi targets 5, 7 and 15, referring to reducing the rate of loss of natural habitats, biodiversity-friendly sustainable land management and restoration of degraded ecosystems, respectively. Support to local level land management planning and community consultations will support achievement of Aichi target 14 on protection of environmental services taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.



26. GEF financing ensures value added by providing grant financing the area coverage of afforestation and rehabilitation of forest belts and degraded pastures on one hand, and improved land management practices on the other would be significantly reduced. Without additional GEF support it is likely that dominance of fast growing exotic species would continue.

27. The Project includes several gender-related actions. In Sub-component 1.1: (i) interventions will be designed in a way that addresses the gender-specific constraints of farmers so that women and men benefit equally from the Project; (ii) during Project consultations, female farmers will be encouraged to apply for support under the climate adaptation grant scheme; and (iii) some capacity building and training sessions for the climate adaptation grants will be targeted exclusively at women beneficiaries to encourage and increase female participation. In all sub-components consultation/citizen engagement processes will ensure participation of women. Under Component 2 the impact of investments on women is particularly assessed and

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F. Project location and Salient physical characteristics relevant to the safeguard analysis (if known)

While providing support for climate smart agricultural practices (subcomponent 1.1) will be done country wide, the support for community based irrigation will be provided only for the Water Users Association of the communities located in the meadow of the Prut and Dniester Rivers. The main focus of the component 2.1 on Community Forest and Pasture Management will be implemented in six vulnerable to climate change districts of the Central part of the country (Cimislia, Criuleni, Nisporeni, Rezina, Telenesti and Ungheni), which have indicated willingness for restoration of degraded land through the National Plan for Afforestation (NPA) for 2015-18. These priority raions offer a potential to provide sufficient areas of lands to be covered by project activities. The selection of these raions was based on information from Soil Science Institute, taking into account climate vulnerability and availability of suitable land for interventions as well as openness for degraded land restoration. With regard to ecological reconstruction of degraded forests at this stage the projects sites have not been yet identified. All proposed activities would not generate any significant environmental and social risks as no major civil works or large scale ecological reconstruction activities in the forests will be supported.

G. Environmental and Social Safeguards Specialists on the Team

Arcadii Capcelea, Mohamed Ghani Razaak



SAFEGUARD POLICIES THAT MIGHT APPLY

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Safeguard Policies	Triggered?	Explanation (Optional)
Environmental Assessment OP/BP 4.01	Yes	<p>The proposed project activities (production of forest reproductive material for climate resilience; ecological reconstruction of priority degraded forests; rehabilitation and establishment of shelter belts to protect fields and riparian buffers to protect water bodies; afforestation of degraded land; community-based pasture management; matching grant facility which would support investments in on-farm water-harvesting structures and efficient small-scale irrigation, anti-hail net systems, agroforestry, soil and water conservation techniques; improving emergency prevention and preparedness training by constructing/rehabilitating the regional Emergency Command Centers; etc.) might generate a series of various environmental and social impacts related to the following: (a) biodiversity degradation; (b) increased pollution of ground and surface waters due to soil erosion; (c) health and environmental risks due to inappropriate pesticides handling; and (d) noise, dust, air and water pollution, health hazards and labor safety issues during the civil works; etc. The anticipated social impacts of such activities include issues around (a) labor and working conditions, (b) information disclosure and stakeholder engagement, (c) community health and safety, (d) lost access to natural resources. All of identified adverse impacts are expected to be typical for afforestation, agricultural production and irrigation activities as well as for small scale construction/rehabilitation works, temporary by nature and site specific and can be easily mitigated by applying best agro-forestry and construction practices or relevant mitigation measures.</p> <p>To address these impacts the client prepared an Environmental and Social Assessment Framework which will guide the project activities and matching grants EA once identified. The ESMF is targeted at specifying the set of mitigation, monitoring measures, timeframes and institutional responsibility measures to be taken during the project activities and matching grants to eliminate adverse environmental and social impacts, offset, or reduce them to acceptable levels. The document covers the following: rules and</p>



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			<p>procedures for environmental screening; guidance for conducting activities/matching grants EIA and/or preparing simple EMPs as well as the EMP Checklist; possible mitigation measures for different proposed activities and matching grants to be supported by the project; requirements for monitoring and supervision of implementing of EIA/EMPs requirements. The ESMF also provides a brief assessment of the associated to the project recently rehabilitated under the US “Compact Program” large irrigation pumping stations and schemes, in terms of their compliance with the WB OPs.</p>
Natural Habitats OP/BP 4.04	No		<p>This OP is not triggered. For the purpose of avoiding potential impacts on NHs in particular for pasture and forest management activities as well as for ecological restoration of degraded forests, the ESMF guidance on preliminary environmental screening of all selected project sites which will be done by Forest Research and Management Institute (ICAS) which has large experience in conducting such activities.</p>
Forests OP/BP 4.36	Yes		<p>While the project will not support any commercial wood harvesting this OP is triggered as the project will support afforestation activities along with the forest reconstruction activities in the degraded forests. In order to make sure the project activities will not affect natural habitats and biodiversity conservation the ESMF specifies the rules and procedure for environmental screening and assessment of land plots given for afforestation or for creating forest shelterbelts as well as of the degraded forests selected for reconstruction activities.</p>
Pest Management OP 4.09	Yes		<p>While the project will not finance purchasing and/or application of pesticides, it might support purchasing special equipment and would provide training on pest management in the forestry sector and thus the project triggers this OP. To address these issues the ESMF includes measures to raise awareness and educate foresters regarding safe pesticide handling and use of Integrated Pest Management to enhance sustainability and reduce human and environmental exposure to pesticides.</p>
Physical Cultural Resources OP/BP 4.11	No		<p>The project will be implemented on agricultural lands and in forest areas and will not generate impacts on PCRs.</p>



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Indigenous Peoples OP/BP 4.10	No	N/A for Moldova
Involuntary Resettlement OP/BP 4.12	Yes	<p>The OP 4.12 on Involuntary Resettlement is also triggered. Although it is expected all activities/subproject will be implemented on public lands, in some cases the proposed activities might affect private households or restrict access of the local population to the afforested lands or to pastures to be improved. To address the involuntary resettlement issues including impacts on livelihoods, and restriction to access to natural resources, the client conducted a Social Impact Assessment (SIA), based on what prepared a Resettlement Policy Framework. The RPF focuses on social risk assessment /screening of interventions to identified appropriate mitigation measures, screening checklists and safeguards instruments, key principles for livelihood restoration, ‘access restriction framework’ in case there are limitations for users to access forest, pasture and other nature resources, public consultation and participation plan with affected persons prior and during project implementation, draft entitlement matrix and institutional arrangement for RPF implementation.</p> <p>As part of Social Impact Assessment, a stakeholder engagement plan has been prepared which outlines the key stakeholders including the Project Affected People who are supposed to be consulted and engaged in planning and implementation of interventions to build local ownership and thus contribute to sustainability and better project outcomes.</p>
Safety of Dams OP/BP 4.37	No	N/A
Projects on International Waterways OP/BP 7.50	Yes	<p>This OP is triggered. Providing grant financing to Water User Associations (WUAs) to help their member farmers to access 10 existing large-scale irrigation systems that were recently rehabilitated under the US-funded Millennium Challenge Corporation (MCC) Program “Compact” do not require any new civil works and will not lead to incremental abstraction of water from the Dniestr and Prut Rivers which are Transboundary Rivers and pass through Moldova’s territory, flowing into the Black Sea or Danube River, therefore triggering the World Bank OP 7.50 – Projects on International Waterways. Accordingly, the works to be funded under the Project can be qualified as minor additions, or alterations to the existing irrigation and drainage schemes which will not (i) adversely change</p>



the quality or quantity of water flows to the other riparians; and (ii) be adversely affected by the other riparians' possible water use. Based on that the project team has obtained a waiver from VP on not required notification of riparian parties.

Projects in Disputed Areas OP/BP 7.60

No

N/A

KEY SAFEGUARD POLICY ISSUES AND THEIR MANAGEMENT

A. Summary of Key Safeguard Issues

1. Describe any safeguard issues and impacts associated with the proposed project. Identify and describe any potential large scale, significant and/or irreversible impacts:

Generally, the project will provide many environmental and social benefits, such as improved farmer skills and investments in climate change adaptation technologies, improved forest management, strengthening disaster response capacity, etc. At the same time, the proposed project activities (production of forest reproductive material for climate resilience; ecological reconstruction of priority degraded forests; rehabilitation and establishment of shelter belts to protect agricultural fields and riparian buffers to protect water bodies; afforestation of degraded land; community-based pasture management; matching grant facility which would support investments in on-farm water-harvesting structures and efficient small-scale irrigation, anti-hail net systems, agroforestry, soil and water conservation techniques; improving emergency prevention and preparedness training by constructing/rehabilitation of a regional Emergency Command Center; etc.) might generate a series of various adverse environmental and social impacts related to the following: (a) biodiversity degradation; (b) increased pollution of ground and surface waters due to soil erosion; (c) health and environmental risks due to inappropriate pesticides handling; and (d) noise, dust, air and water pollution, health hazards and labor safety issues during the civil works; etc. All these impacts are expected to be typical for afforestation, agricultural production and pasture improvement activities as well as for small scale construction/rehabilitation works, temporary by nature and site specific and can be easily mitigated by applying best agro-forestry and construction practices or relevant mitigation measures.

2. Describe any potential indirect and/or long term impacts due to anticipated future activities in the project area:

The potential indirect and long term impacts are positive and associated with improved forest and pasture management as well as with the increased agriculture climate resilience. Furthermore, the project activities would significantly strengthen the country's capacity to respond to climate generate natural hazards.

3. Describe any project alternatives (if relevant) considered to help avoid or minimize adverse impacts.

N/A

4. Describe measures taken by the borrower to address safeguard policy issues. Provide an assessment of borrower capacity to plan and implement the measures described.

To address identified environmental and social risks and impacts the client prepared an Environmental and Social Assessment Framework (ESMF) which will guide the project activities and matching grants Environmental Assessment (EA) once identified and selected. The ESMF is targeted at specifying the set of mitigation and monitoring measures to

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be taken during the implementation of project activities and matching grants to eliminate adverse environmental and social impacts, offset, or reduce them to acceptable levels. The document provides also ESMF institutional responsibilities. The document covers the following: rules and procedures for environmental screening; guidance for conducting activities/matching grants (Environmental Impact Assessment (EIA) and/or preparing simple Environmental Management Plans (EMPs) as well as the EMP Checklist; possible mitigation measures for different proposed activities and matching grants to be supported by the project; requirements for monitoring and supervision of implementing of EIA/EMPs requirements. The ESMF also provides a brief assessment of the associated to the project recently rehabilitated under the US "Compact Program" large irrigation pumping stations and schemes in terms of their compliance with the WB OPs. Based on the ESMF for each matching grant and proposed project activity with potential impacts the client will prepare site specific EMP which will be, per WB and national EA rules and procedures, disclosed and publicly consulted. For the regional Emergency Command Center to be constructed/rehabilitated as well as for National Center for Forest Genetics and Seeds, the client will prepare the Checklist EMPs to be disclosed and consulted and further used for project implementation. In order to avoid or minimize the project potential impacts on natural habitats and biodiversity conservation, the ESMF specifies the rules and procedure for environmental screening and assessment of land plots given for afforestation or for creating forest shelterbelts as well as of the degraded forests selected for reconstruction activities. Lastly, to address the pest management issues the ESMF includes measures to raise awareness and educate foresters regarding safe pesticide handling and use of Integrated Pest Management to enhance sustainability and reduce human and environmental exposure to pesticides. All the activities foreseen to occur within this project will be located on public lands. In order to address potential social risks and adverse impacts due to project interventions, especially issues related to restrictions on access to livelihood resources during afforestation activities on degraded lands, rehabilitation and irrigation infrastructure improvement activities, a Resettlement Policy (RPF) has been prepared by the client. The RPF focuses on social risk assessment /screening of interventions to identified appropriate mitigation measures, screening checklists and safeguards instruments, key principles for livelihood restoration, 'access restriction framework' in case there are limitations for users to access forest, pasture and other nature resources, public consultation and participation plan with affected persons prior and during project implementation, draft entitlement matrix and institutional arrangement for RPF implementation. Per WB requirements both the ESMF and RPF were disclosed and publicly consulted in the country and in the WB Infoshop

The main responsibility with regard to ESMF and RPF implementation lies with the by an existing Project Management Team (PMT) in the Ministry of Environment. The PMT supported in the past the implementation of several WB projects and in particular the Persistent Organic Pollutants (POPs) and of the Disaster and Climate Risk Management Projects (DCRMP). The second project have financed, to a large extent, same type of activities as within the proposed project and in particular agricultural climate adaptation practices (small scale irrigation; plantation of forest protective belts; anti-hail protection; small scale (re)construction activities; etc.). The PMT staff has substantial experience in implementing environmental and social safeguards and until now the PMT EA capacity have been qualified as satisfactory. As specified in the last AMs for the recently completed Disaster and Climate Risk project the project environmental management was satisfactory. The conducted civil works were in compliance with the provisions of the project EMP and EMP Checklists for hydro-meteorological stations and for Department for Emergency Situations Command Center. The PMT has integrated in the bidding and contract documents relevant environmental clauses. The EMP environmental requirements are followed by the constructors and there were no complaints from the HS and DESCP, and supervising Engineers. All construction and refurbishing activities have been reported as being undertaken in a manner consistent with the existing national environmental and construction requirements and permits. Under the pilot activities for the consolidation of the agricultural sector's resilience to adverse weather effects the PMT has assessed from environmental point of view all selected grants and checked if they have relevant environmental permits and authorization, including approvals from environmental inspectorate. For the project implementation the



PMT will hire a full time safeguards specialist responsible for both environmental and social safeguards, and if needed, WB Environmental and Social Specialists will provide adequate on the job training.

The Matching Grants Facility (MGF) will be implemented by ACSA agency. This is an institution which has preliminary knowledge and experience in implementing such grants and various agricultural and climate adaptation sub-projects within several WB projects: RISP-I and RISP-II; Disaster Risk Mitigation and Adaptation; and currently ongoing Moldova Agricultural Competitiveness Project. Its performances under these projects have been always considered as satisfactory. In terms of performing safeguards activities ACSA have been also considered as satisfactory as has in its staff highly qualified agriculture and environmental specialists.

The safeguards responsibilities related to forest and pasture management activities have been assigned to Forestry Management and Research Institute (ICAS) which has extensive experience in such activities. ICAS has been the key implementing institution for a series of WB carbon sequestration projects supported by Prototype Carbon and Biocarbon Funds and its safeguards performance was qualified as highly satisfactory.

5. Identify the key stakeholders and describe the mechanisms for consultation and disclosure on safeguard policies, with an emphasis on potentially affected people.

The draft ESMF and RPF have been consulted with all key stakeholders. For that purpose the PMT on January 30, 2017 has disclose the document on its and MoE websites, inviting all interested parties to participate in the public briefing which was organized on February 13, 2017. During the meeting there were no significant comments on improving the ESMF documents. After the meeting, on the basis of input from participants as well as received comments on draft ESMF posted two weeks earlier for consultation, there were made relevant corrections both in the main text and annexes of the ESMF to better meet stakeholders' concern.

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B. Disclosure Requirements (N.B. The sections below appear only if corresponding safeguard policy is triggered)

Environmental Assessment/Audit/Management Plan/Other

Date of receipt by the Bank February 17, 2017	Date of submission to InfoShop February 20, 2017	For category A projects, date of distributing the Executive Summary of the EA to the Executive Directors
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**"In country" Disclosure
February 17, 2017**

Resettlement Action Plan/Framework/Policy Process

Date of receipt by the Bank February 17, 2017	Date of submission to InfoShop February 21, 2017
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**"In country" Disclosure
February 17, 2017**



Pest Management Plan

Was the document disclosed prior to appraisal?

Date of receipt by the Bank

Date of submission to InfoShop

"In country" Disclosure

If the project triggers the Pest Management and/or Physical Cultural Resources policies, the respective issues are to be addressed and disclosed as part of the Environmental Assessment/Audit/or EMP.

The project triggers the OP on Pest Management. To address the requirements of this OP the ESMF provides guidance on conducting public awareness and training activities for forestry sector.

If in-country disclosure of any of the above documents is not expected, please explain why:

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C. Compliance Monitoring Indicators at the Corporate Level (to be filled in when the ISDS is finalized by the project decision meeting) (N.B. The sections below appear only if corresponding safeguard policy is triggered)

OP/BP/GP 4.01 - Environment Assessment

Does the project require a stand-alone EA (including EMP) report? - **Yes**

If yes, then did the Regional Environment Unit or Practice Manager (PM) review and approve the EA report? - **Yes**

Are the cost and the accountabilities for the EMP incorporated in the credit/loan? - **Yes**

OP 4.09 - Pest Management

Does the EA adequately address the pest management issues? **Yes**



Is a separate PMP required? **No**

If yes, has the PMP been reviewed and approved by a safeguards specialist or PM? Are PMP requirements included in project design? If yes, does the project team include a Pest Management Specialist?

OP/BP 4.12 - Involuntary Resettlement

Has a resettlement plan/abbreviated plan/policy framework/process framework (as appropriate) been prepared? **Yes**

If yes, then did the Regional unit responsible for safeguards or Practice Manager review the plan? **Yes**

Is physical displacement/relocation expected? **No**

Is economic displacement expected? (loss of assets or access to assets that leads to loss of income sources or other means of livelihoods) **No**

OP/BP 4.36 - Forests

Has the sector-wide analysis of policy and institutional issues and constraints been carried out? **NO**

Does the project design include satisfactory measures to overcome these constraints? **NO**

Does the project finance commercial harvesting, and if so, does it include provisions for certification system? **No**

OP 7.50 - Projects on International Waterways

Have the other riparians been notified of the project? **No**

If the project falls under one of the exceptions to the notification requirement, has this been cleared with the Legal Department, and the memo to the RVP prepared and sent? **Yes**

Has the RVP approved such an exception? **Yes**

The World Bank Policy on Disclosure of Information

Have relevant safeguard policies documents been sent to the World Bank's Infoshop? **Yes**

Have relevant documents been disclosed in-country in a public place in a form and language that are understandable

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and accessible to project-affected groups and local NGOs? Yes

All Safeguard Policies

Have satisfactory calendar, budget and clear institutional responsibilities been prepared for the implementation of measures related to safeguard policies? Yes

Have costs related to safeguard policy measures been included in the project cost? Yes

Does the Monitoring and Evaluation system of the project include the monitoring of safeguard impacts and measures related to safeguard policies? Yes

Have satisfactory implementation arrangements been agreed with the borrower and the same been adequately reflected in the project legal documents? Yes

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APPROVAL

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Note to Task Teams: End of system generated content, document is editable from here.