

PROJECT DOCUMENT

Republic of Moldova

Project Title: Promotion of climate change and disaster risk reduction solution in the water and civil protection sectors for enhanced rural resilience

Project Number: 00111725

Implementing Partner:

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Brief Description

Considering its economic structure and geographic features, Moldova is highly vulnerable to climate change and is exposed to disasters due to the hydrometeorological phenomena and natural hazards. While drought and floods are among top hydro-meteorological hazards caused by extreme weather and climate events, due to the current and projected abnormal high temperatures leading to water scarcity the incidence of forest fires is increasingly posing a threat to the natural ecosystems, agricultural system and human settlements. With the projected decrease in surface water availability by 16-20% by 2020¹ due to climate change, the water supply for all users requires adaptation options to reduce the vulnerability of rural communities related to water stress. In Moldova's climate induced disasters are occurring more frequently and on a recurring basis, causing an average of 4 million US dollars² per year of economic damage.

Climate scenarios also indicate the country is trending strongly towards becoming more arid³. This will intensify not only droughts but also fires. Unfortunately, rural communities experience a capacity deficit in terms of fire prevention, preparedness and timely response mainly due to liquidation of over 400 equipped and capacitated firefighting units following the extensive privatization process from the 90s. Subsequently, the intervention radius of 3 km (according to norms) increased to up to 10-15 km in urban areas and 40-50 km in rural areas (where 70% of the total number of fires occur). It resulted in increased response time and lower awareness of fire risks by the rural population, subsequently leading to considerable increase in loss of life, material damages and affected ecosystems. It is widely accepted that rural women are disproportionately affected by fires due to them being mostly engaged in cooking in unsafe cookstoves and collection of firewood in ecosystems that might be at high risk of fires. Overall, during 2008 and 2017, in Moldova were registered about 8 725 fires resulting in 1 356 deaths, including 61 children⁴. In the rural areas, poor and low-income households are mostly exposed to fire⁵ risks due to also lack of proper fire prevention measures and adapted techniques, education and awareness.

Against this background, the project aims to increase resilience and adaptive capacities of rural communities to climate change and disasters through improved water storage infrastructures and disasters risk reduction measures. The project is supporting implementation of climate-smart water management solutions for agriculture, flood management and fire prevention and expansion of community-based rescue/firefighting teams in rural communities of Moldova with the purpose to reduce the exposure and vulnerability of the rural communities to climate change and disaster risks. The project will be implemented over a period of 36 months and the activities are clustered around 2 major outputs intended to produce an impact in 5 districts of Moldova, Central (Hincesti, Criuleni and Ungheni districts) and Southern (Leova and Cantemir).

The expected **impact** of the project is: **improved resilience of rural communities' livelihoods in the face of climate change**

The **overall project outcome** is: **strengthened local policies, capacities and infrastructure which enable climate and disaster resilient development at the community level**

The **projects outputs** are the following:

Output 1 - Adaptation interventions in the water sector for agricultural purposes and flood management demonstrated and local climate change related policy frameworks in place in a selected number of districts

¹ <https://www.climatechangepost.com/moldova/fresh-water-resources/>

² <http://www.md.undp.org/content/moldova/en/home/presscenter/pressreleases/2017/06/23/r-moldova-traseaz-o-foaie-de-parcurs-pentru-reducerea-emisiilor-de-gaze-cu-efect-de-ser-cu-cel-pu-in-64-p-n-n-2030.html>

³ <http://clima.md/download.php?file=cHVibGljL3B1YmtpY2F0aW9ucy80MjU2ODFfZW5fY240X2VuX3dlYjFfMDcwLnBkZg%3D%3>

⁴ <http://dse.md/sites/default/files/pdf/Indicii%20statistici%205%20ani%202013-2017.pdf>

⁵ Available upon request

Output 2 - Community-level climate and disaster management capacities improved for risk reduction, prevention and timely response

Under the 1st Output 2 major activities will be implemented: *1.1. Mainstream climate change adaptation and disaster risk management priorities into local development planning frameworks* with intention to widely involve various stakeholders ranging from private sector to vulnerable groups (out of which 50% will be women) into policy and decision-making over priorities that affect their well-being; and *1.2. Water storage infrastructures piloted in 5 districts of the country to enhance adaptation to climate change in the water and agricultural sectors* by supporting with grants at least 15 farmers, including women, to put in place climate-smart water systems, such as for instance, water storage basins.

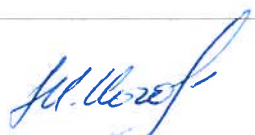

Under the 2^d Output 2 major activities will be implemented: *2.1 Establish Community-based rescue and firefighting brigades in the most vulnerable and risk exposed districts of the country* which are seen as an instrument for resilient community development that will cover up to 10-20 km radius with maximum intervention time of 15 minutes; and *2.2 Conduct capacity development for climate and disaster response local teams and raise awareness towards building a culture of safer living* in order to ensure that the performance of the climate and disaster response local teams in the target communities is exercised at its full capacity and that the local population have an enhanced understanding of the response patterns in case of disasters.

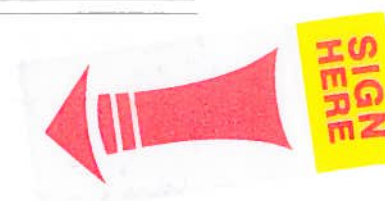
The benefits of the project will materialize by increased water availability for resilient livelihoods, reduced exposure to disasters and fire risks for 55 villages (approximately 58,714 people, including 39 300 women), where 990 households are identified as vulnerable (2930 vulnerable persons) from the economic and social point of view.

As per the General Inspectorate for Emergency Situations, for the purpose of this project, as vulnerable groups and individuals are defined people with diminished capacity to anticipate, cope with, resist and recover from the impact of a natural or man-made hazard. Those include: 1st Group – Persons who are alone and/or sick that are tied to bed and cared by social assistant; 2nd Group – Poor families with many children and families without one or both parents; and, 3rd Group – Old persons with limited mobility.

Contributing to: CPD Outcome 3 "the people of Moldova, especially most vulnerable, benefit from enhanced environmental governance, energy security, sustainable management of natural resources and climate and disaster resilient development" Output 3.3. National and sub-national governments have improved capacities to integrate resilience to climate change and disasters into development plans and practices to reduce population's vulnerability Gender marker: GEN2	Total resources required:	1,072,000 EUR	
	Total resources allocated:	1,314,190 EUR	
		UNDP TRAC:	n/a
		Donor:	1,072,000 EUR
		Government:	242,190 EUR
	Unfunded:		

Agreed by:

General Inspectorate for Emergency Situations	United Nations Development Programme
	
Mihail HARABAGIU, Head	Dafina GERCHEVA, UNDP Resident Representative
Date:	Date: 18.12.18



ABBREVIATIONS

DRR	Disaster Risk Reduction
CDRR	Climate and disaster risk reduction
EECCC	Energy, Environment and Climate Change Cluster
EIARMSP	Environmental Impact Assessment, Risk Management and Sustainability Plan
GIES	General Inspectorate for Emergency Situations
GDP	Gross Domestic Product
IPCC	Intergovernmental Panel on Climate Change
IWRM	Integrated Water Resources Management
LPAs	Local Public Authorities
MARDE	Ministry of Agriculture, Regional Development and Environment
MoUs	Memorandum of Understanding
NGO	Non-Governmental Organization
PB	Project Board
PM	Project Manager
PMU	Project Management Unit
RDAs	Regional Development Agencies
RRF	Results and Resources Framework
SDG	Sustainable Development Goals
SHS	State Hydrometeorological Service of Moldova
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNCCD	United Nations Convention to Combat Desertification
UNISDR	United Nations International Strategy for Disaster Reduction
WB	World Bank

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I. DEVELOPMENT CHALLENGE

Characteristics of the intervention environment

Moldova is located in the south-eastern part of Europe, situated between Romania and Ukraine, covering an area of 3,384,300 ha and organized into 32 districts/raions, plus the municipalities of Chisinau and Balti, the Autonomous Territorial Unit of Gagauzia and the breakaway region of Transnistria. According to the latest census (2014) the population of the country was estimated at around 2,804,801 people with a density of approximately 119.1 persons per square kilometre. Females prevail with 51.8 per cent in the nation's population, as opposed to 48.2 percent of males in the total population. The majority of the population, 57%, is concentrated in rural areas and depends on agriculture for food and income. While rural women are four times more prone to absolute poverty compared to women in urban areas of Moldova, these are also identified as the most vulnerable to climate change impacts, given the gender-defined roles in the Moldovan society where women are seen as providers of resources to ensure water and food for their families⁶⁷

Moldova is a parliamentary country, where the Parliament exercises the legislative powers and the Government executive powers. The Government oversees the domestic and foreign policy of the country and manages the central public administration currently consisting of 9 ministries. It is a unitary country with 2 levels of local government and following the adoption of the National Decentralization Strategy in 2012, the Local Public Administration of both levels (primaria and raions) received enhanced competencies for decentralized local development, planning and provision of services for the benefit of the local people. The decentralization process mandates also the LPAs to take over the responsibilities for management of the local natural resources but also to put in place costed local development strategies which respond to the current climate and disaster risks. Unfortunately, until now due to the limited capacities for financially-sound local resilient planning, only 35 communities of Moldova have adopted such climate-responsive local strategies developed with UNDP and other UN Agencies support, out of which 6 were prepared under the Project "Supporting National Adaptation Planning Process" financed by Government of Austria. Furthermore, the role of women's participation in the local decision-making in the context of climate change is still not fully acknowledged and requires further promotion to ensure implementation of the National Gender Equality Strategy of 2017 at the local level.

Moldova is categorized as a lower-middle-income economy with a per capita GDP of 1,900USD in 2016. This GDP has reached only 72.1 per cent of the 1990 level. Over the past ten years, Moldova's economy has gone through significant structural changes however remains one of the poorest countries in Europe and faces challenges in sustaining the progress. Poverty is most severe in rural areas. The average income of the rural population has stayed consistently lower (by 25%) than the income of the urban population. Low wages, limited numbers of jobs, climate related shocks, poor infrastructure and livelihood conditions in rural areas have led to rural-urban migration.

Almost 2/3rd of the country's territory is agricultural land and the agricultural sector is the mainstay of the economy. Agricultural sector is contributing approximately 14.5% to the country's GDP and employing less than a third (28%) of the country's population, half of which are women. Agro-food exports account for roughly 50% of the country's total exports. Approximately 70% of the population from rural areas depends on agriculture for their livelihoods. According to General Agricultural Census conducted in 2011, there is a total of 902 214 agricultural holdings in the Republic of Moldova. Approx. 2/3 of the agricultural land is cultivated by large agricultural farms which hold more than 100 ha of land each, while 35% by households and small farms with less than 10 ha. The agriculture of Moldova is mostly rain-fed, providing for production of perennial crops across the country such as maize, wheat, sunflower, barley, vineyards and fruits. Moldova's water deficit threatens the long-term sustainability of the agriculture sector.

The country's total available water resources amount to 5.6 km³, including 4.3 km³ of surface water and 1.3 km³ of groundwater. The main groundwater reserves are located in deep confined aquifers, whose natural recharge capacity is limited. Irrigated land has diminished drastically compared to the Soviet period, due to the aging and deterioration of the equipment, the rising cost of energy for the pumps, the farm restructuring process – older pumping systems not adapted to the new size of plots – and the overall collapse of the agriculture sector since the 1990s. Water resources for agriculture are scarce, and irrigation infrastructure is almost nonexistent among small-scale farmers. As a result, there is uncontrolled use of water from wells and short boreholes for irrigation in households and small farms, and the water table levels in many aquifers has been dramatically reduced, indicating severe depletion of aquifers in many regions of the country.

⁶ 3rd National Communication under the United Nations Framework Convention on Climate Change

⁷ Gender Equality Strategy of Moldova 2016-2020

⁸ Moroz V., et al. 2015. Country report: Republic of Moldova. National Institute for Economic Research. European Union's Seventh Framework Programme for Research, Technological Development and Demonstration

The rescue and firefighting service is part of the General Inspectorate for Emergency Situations and represent basic forces of civil protection on the territory of the Republic of Moldova. Human and material losses caused by exceptional situations and fires remain impressive. Lack of awareness and reduced number of rescue and firefighting brigades which increases emergency response time are the main factors contributing to increased human and material losses. During the last 9 years (2008-2017), 8 725 fires occurred, resulting in 1 356 deaths, including 61 children and material loss was estimated at about 1 265 million lei⁹. According to national statistics 40% of fire occurs in the urban area, and 60% in the rural area and circa 75% from total number of fires occur at the household level. Lack of financial resources is one of the main obstacle for enhancing rescues and firefighting service. Comparing with other countries the budget allocation for protection against fire and other risks is quite modest.

Gender equality is recognized as one of the building blocks of resilience crucially important in achieving the overarching goal of the Sendai Framework for Disaster Risk Reduction 2015-2030. However, despite the global advocacy for gender mainstreaming into climate and disaster risk reduction (DRR), there is still little progress registered in implementation of this effort at the national and local levels. The reasons vary from poor understanding of gender and climate and disaster risk linkages, to lack of institutional and individual capacities and tools to mainstream gender into climate and DRR, but also to lack of genuine political accountability and financial resources for gender and climate and DRR. In essence, gender relations in disasters reflect gender relations in society. Owing to different life experiences, women and men differ in how they experience, respond to, and recover from disasters. Therefore, addressing gender relations in climate and DRR requires more attention to the status of women, along with the challenges they face.

Climate change is already challenging the country's development agenda, and the future climate projections show an expected amplification of the impacts across different economic sectors of the country, that are dependent of water resources use, such as agriculture (crops and livestock), forestry, fisheries, etc. Thus, water shortages, changing of water quality, reduced food production, ecosystems deterioration, and other impacts must be timely addressed in order to allow a sustainable economic and human development.

If no actions are taken, this might lead to the fact that the country might not be able to achieve its socio-economic development goals and SGDs targets. The cost of inaction could be severe– natural disasters are already a heavy toll on the Moldovan economy costing an average loss of \$61 million each year, while with climate change these losses are only going to intensify.

Problem analysis and analysis of local potentials

Considering its economic structure and natural features, Moldova is highly vulnerable to climate change and is exposed to disasters due to the hydrometeorological phenomena and natural hazards. While drought and floods are among top hydro-meteorological hazards caused by extreme weather and climate events, due to the abnormal high temperatures recorded lately the incidence of forest fires is increasingly posing a threat to the natural ecosystems and humans. In Moldova climate induced disasters are occurring more frequently and on a recurring basis, causing an average of 4 million US dollars per year of economic damage.

Between 1990 and 2015, Moldova experienced eleven droughts that caused significant yield declines in crops and pastures. In six of those years, drought occurred only in summer, but in 1990, 1992 and 2003 the droughts lasted throughout the whole vegetative period (April – September) with an estimated annual crop production loss of 20 million USD. A severe drought in 1994 resulted in a 30% decline in Gross Domestic Product (GDP) and a 26% decline in agricultural output. In 2007, catastrophic drought impacted 90% of the country's territory and 80% of the rural population was affected by the reduced harvest. Total losses amounted to 1 billion USD and the average annual income from agricultural activity in 2008 was lower by 19% than in the previous two years. The 2012 drought severely affected crop production in the Central and Southern Regions and caused estimated losses of about 1.25 billion USD. Following intensification of droughts in the latest decades, the State Hydrometeorological Service of Moldova (SHS) updated the probability for catastrophic droughts (i.e., less than 50% of mean rainfall) from one event every nine years to one drought event almost every two years¹⁰.

Such an exposure is due to the country's dependence on rain-fed agricultural production which is tied to climate, making it the most vulnerable of all sectors of the economy. Shortage of water is one of the limitations of the sector, as well as slow transfer of knowledge and education towards adoption of drought responsive solutions. The potential for water harvesting is mostly disregarded mainly due to limited financial resources of small farmers and low awareness. Institutional barriers also include insufficient participation of sub-national and local administrative levels in drought prevention, and climate change adaptation related decision making and planning. Raising public awareness are therefore crucial elements for the promotion of the equitable, efficient and sustainable use of water resources, in particular in the context of the large variability in water availability in Moldova.

⁹ <http://dse.md/sites/default/files/pdf/Indicii%20statistici%205%20ani%202013-2017.pdf>

¹⁰ World Bank, 2007. Rural Productivity in Moldova – Managing Natural Vulnerability. World Bank: Washington, DC

In 2008, floods from torrential rains caused 120 million USD in damage to houses, bridges and roads and flooded 7,500 hectares of agricultural land.¹¹ While precipitation is expected to decrease by the 2040s, rainfall events are expected to be larger. Almost half of all Moldovan communities are located in flood-prone areas and approximately 45,000 ha (approximately 2% of agricultural land) have a history of being waterlogged.¹²

In accordance with the climate scenarios, in Moldova the average temperature is expected to increase with 2–3° C by 2050¹³, resulting in more acute weather patterns and respectively in increased frequency and magnitude of droughts and floods confirmed as well by the UNFCCC Intergovernmental Panel on Climate Change. Changing climate conditions affect primarily the agriculture and the water resources in terms of water availability during the droughts and dry spells, while at the same time intensifying the flood risks due to heavy precipitation events/extreme storms and limited adaptation options in the respective sectors.

With the country's climate trending strongly towards becoming more arid, fires will also intensify. In accordance with the 4th National Communication on Climate Change¹⁴, forest fire risks, especially during the summer season, will become more pronounced in the period of 2021 – 2050, and the trend will be maintained by the end of the century. Unfortunately, rural communities experience a capacity deficit in terms of fire prevention, preparedness and timely response mainly due to liquidation of over 400 equipped and capacitated firefighting units following the extensive privatization process from the 90s. Subsequently, the intervention radius of 3 km (according to norms) increased to up to 10-15 km in urban areas and 40-50 km in rural areas (where 70% of the total number of fires occur). It resulted in increased response time and lower awareness of the fire risks by the LPAs and rural population, subsequently leading to considerable increase in loss of life, material damages and affected ecosystems. Overall, during 2008 and 2017, in Moldova were registered about 8 725 fires resulting in 1 356 deaths, including 61 children¹⁵. In the rural areas, poor and low-income households, as well as those with limited mobility and elderly, are mostly exposed to fire risks due to also lack of proper fire prevention measures and adapted techniques, education and awareness.

The responsibilities for fire prevention and preparedness are new to the local governments in the context of the decentralized governance system, which for the reasons of costs, staffing and effective resource management, currently cannot be maintained at the local level by the national structures. At all levels, but especially at the community level, there is also limited acknowledgement of the fact that fires will only intensify, as per the 4th National Communication to the UNFCCC. The recent observations show that while during 2000-2008 the number of forest fires ranged between 3-15, only on 2007 these accounted to 90.

The prediction of forest fire occurrence is a complex issue tied to weather, tree species, geographic conditions and human activities. Non-meteorological factors may also play a considerable role in fire occurrence. Nevertheless, the deficit of precipitation and water availability would play a considerable role in fires occurrence. According to projection of future changes in forest fire risk by Angstrom index, the forest fire risks, especially during the summer season, will become more pronounced in the period of 2021 – 2050 on the most territory of the Republic of Moldova, and the trend will be maintained by the end of the century.

Climate variability and extremes are expected to intensify with continued global warming and in accordance with the 3rd National Communication to the UNFCCC. This will increase exposure and will be aggravating vulnerabilities in the water management, agriculture, and disaster risk management. Therefore, water storage is considered in many development programmes, on which the project will capitalize. Among those identified is promotion of small-scale water reservoirs to introduce greater efficiency in agricultural water use, ensure better sustainability of the infrastructure assets, optimize water resources, and reduce operating and maintenance costs. There is a great need to encourage the adoption of more efficient and sustainable irrigation practices by farmers and to build their capacity to take responsibility for the management of the irrigation systems.

¹¹ WHO. 2008. Floods in Moldova, Romania, and Ukraine; Ministry of Environment and Natural Resources. 2009. Second National Communication of the Republic of Moldova Under the UNFCCC

¹² World Bank. 2013. Reducing the vulnerability of Moldova's Agricultural Systems to Climate Change: Impact assessment and adaptation options. World Bank: Washington, DC

¹³ Improving resilience of rural communities to climate change by augmenting water management with small scale water reservoirs Feasibility Study, 2017

¹⁴<http://clima.md/download.php?file=cHVibGljL3B1YmxpY2F0aW9ucy80MjU2ODFfZW5fY240X2VuX3dYjFfMDcwLnBkZg%3D%3D>

¹⁵ <http://dse.md/sites/default/files/pdf/Indicii%20statistici%20%20ani%202013-2017.pdf>

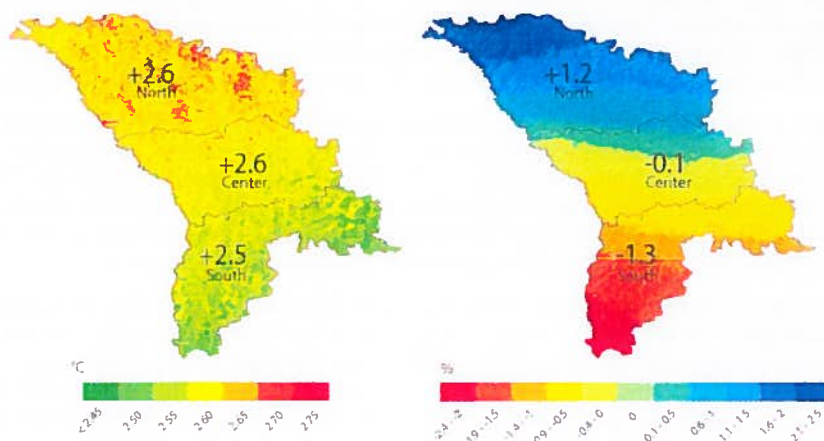


Figure 1. Projected changes in temperature and precipitation in Moldova by 2050

Changes in annual mean temperature (°C) Changes in total precipitation (%)

Source: Collins et al. (2013)

Without such response measures, the total cost of inaction on climate adaptation is estimated at around 600 million US dollars, and this value is expected to more than double in real terms by 2050 to around 1.3 billion US dollars.

Managing water-related risks requires improved coherence across sectors, such as climate change adaptation and water management, as well as with disaster risk reduction. It is also a pre-requisite for resilient development at all levels, given that climate change is already amplifying the vulnerability and exposure of the agriculture, natural ecosystems and human settlements in relation to water stress. The Moldovan Government has already identified several measures for the management and development of water efficiency programs, without which it is likely that a large proportion of the rural population will remain extremely vulnerable to the interacting effects of climate change. These are in line with the Integrated Water Resources Management (IWRM) approach to balance the use of resources by humans and water protection requirements.

Analysis of the relevant national and sectoral policies

The responsibility for defining strategies and policies for the water sector stays with the Ministry of Agriculture, Regional Development and Environment.

The strategic directions for water resources and the water-related sectors in the context of climate change and disaster risk reduction are outlined in a number of sectorial and cross-sectorial strategies, policies, and related action plans. The main ones include:

Program for the development of water management and hydro-melioration in the Republic of Moldova for the years 2011–2020 focuses on efficient water management, the protection of localities from floods, increasing the areas of irrigated land and their yield, etc.;

Strategy for Adaptation to Climate Change by 2020 identifying measures to ensure the country's water needs in the context of climate change. These include:

- the creation of new reservoirs to improve use of hydrological resources in a socio-economic context;
- modification of existing infrastructure to regulate water flows and their distribution, based on climate related changes;
- the design and implementation of new solutions for the collection and use of rainwater;
- improved use and management of groundwater, etc.

Strategy for Water Supply and Sanitation for the years 2014–2028 focuses on protection of water resources against climate change threats consistent with the measures contained in the Climate Change Adaptation Strategy by 2020.

Environmental Strategy for 2014–2023 focuses on integration of climate change adaptation principles into all sectors of national economy.

Program of Activity of the Government of the Republic of Moldova 2016–2018 focuses on the extension (rehabilitation) of irrigation and drainage systems, the protection of crops in the context of climate change, and adaptation to climate change across all sectors of the national economy;

On the legislative side, a series of laws and regulations have been enacted that, directly or indirectly, address the water sector and enable achievement of policy priorities and objectives. There are 16 laws and 34 normative acts related to water resources as: on the protection of the environment (1993), with regard to the protection zones and strips of rivers and water basins (1995), on the principles of urban planning and spatial planning (1996), with regard to natural resources (1997), on the background of natural protected areas of the state (1998), with regard to hydro-meteorological activity (1998), on the fisheries fund and fisheries (2006), with regard to drinking water (1999), on local public administration (2006), with regard to irrigation water users' associations (2010), on the authorization of the execution of construction works (2010), and the Water law (2011).

However, the main regulatory issues are contained in the Water Law (2011) which provides for the efficient management, protection and use of surface waters and groundwater based on evaluation, planning and decision-making in a participatory way. It also establishes water rights, promotes investment in water resources, establishes mechanisms for the protection of water status, prevents further degradation to groundwater, water quality and aquatic ecosystems. It also ensures sufficient water supply to terrestrial ecosystems.

In addition, the Association Agreement between the Republic of Moldova and the European Union (the Association Agreement) ratified in 2014 has one of its objectives development and strengthening of international cooperation to fight climate change by delivering concrete measures at national, regional and international level to harmonize water legislation with the EU Water Framework Directive (WFD). This includes the development of River Basins Management Plans and adoption of the IWRM approach to water resources management and flood protection. As a follow-up the Management Plan of the Nistru River Basin District was approved in 2017, and the Management Plan for the Danube-Prut and Black Sea approved on 3rd of October 2018.

Moldova is a party to 32 Multilateral Environmental conventions, protocols and agreements. The following are the key conventions where the project proposal is contributing to achievement of assumed international commitments:

- Convention on Biological Diversity (Rio de Janeiro, 1992); ratified in 1993. While the overall objective of the Convention is conservation of biological diversity and the sustainable use of its components, through the established water basins this project will be supporting towards sustaining the key functions of the agro-ecosystems and its processes. In addition, the water to be available as a result of project interventions shall enable diversification of agro-ecosystems, including of the cropping systems currently practiced by Moldovan farmers.
- United Nations Framework Convention on Climate Change (Rio de Janeiro, 1992), ratified in 1995. The project is conducive towards climate change adaptation actions assumed by the Convention, by addressing the vulnerabilities of the agricultural systems to climate change and by piloting the approaches to addressing food security.
- The United Nations Convention to Combat Desertification (Paris, 1994), ratified in 1999. Given the fact that country's climate is becoming more arid where the desertification process is expanding, the project is promoting actions to mitigate the effects of droughts in response to the Conventions objective.
- Convention on Access to Information, Public Participation in Decision-Making Process and Access to Justice in Environment (Aarhus, 1998); ratified in 1999. The project implementation is well aligned with the Conventions principles on access to information, and public participation in decision-making processes on matters concerning the local development and testing of adaptation solutions in the water sector.

The project is supporting achievement of the planned adaptation undertakings outlined in the Nationally Determined Contributions following the ratification by the Republic of Moldova of the Paris Agreement in May 2017. As a follow-up the country has embarked on the national adaptation planning process which sets out a solid foundation for climate change adaptation actions. The following are the priority climate actions with adaptation focus towards which the project is contributing directly with the envisaged actions:

- Action 1.2. "Mainstream climate change adaptation in the sectoral policies of national economy";
- Action 2.3. "Raise the awareness of all stakeholders on climate change risks and adaptation measures";
- Action 3.1. "Risk Management and Climate Change Adaptation in the Agriculture Sector";
- Action 3.2. "Risk Management and Climate Change Adaptation in the Water Resources Sector".

The project will contribute to achievement of Sendai Framework Disaster Risk Reduction Outcome "The substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries" more specifically the following targets:

- Substantially reduce global disaster mortality by 2030, aiming to lower average per 100,000 global mortality rate in the decade 2020-2030 compared to the period 2005-2015;

- Substantially reduce the number of affected people globally by 2030, aiming to lower average global figure per 100,000 in the decade 2020 -2030 compared to the period 2005-2015;
- Reduce direct disaster economic loss in relation to global gross domestic product (GDP) by 2030;
- Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030.

The draft Disaster Risk Management Strategy which is pending approval identifies fire as a major risk for the societies, economies and the environment, exacerbated by climate change. It calls for strengthening of the fire protection systems at the community level in order to ensure protection of the people and environment, rule out damages and losses and enhance rural resilience. Such investments are also in line with the Program of strengthening the rescue and firefighting service in rural areas approved through Government Decision 202 of 14.03.2013. The Program aims, in line with European Union provisions, to strengthen the system of prevention and liquidation of the consequences of exceptional situations/disasters and fires in the rural localities through creation of 114 territorial rescue and firefighting units by 2020. Until now, due to limited financial resources and capacities only 39 such territorial rescue and firefighting units were established by the local public authorities.

In Moldova, the governing body in the area of civil protection and disaster risk management is the General Inspectorate of Emergency Situations under the Ministry of Internal Affairs mandated with disaster prevention, preparedness, response, relief and recovery: ranging from protecting people and property to actually conducting rescue operations and mitigation measures. The civil protection and disaster risk management policies are contained in several legal acts, such as:

- Law 271 on Civil Protection (1994), which defines the fundamental principles of civil protection organization at all levels and establishes the tasks and legal framework of the activity in this field for public authorities, institutions, enterprises, organizations and citizens.
- Law 93 on Civil Protection and Emergency Situations Service (2007), which establishes the legal framework, principles of activity, powers, duties, and rights of the Civil Protection and Emergency Situations Service staff, and the conditions necessary to perform the service and activities in its subdivisions.
- Government Decision 1340 on the National Commission for Emergency Situations (2001) establishes the nominal composition of the National Commission for Emergency Situations and its regulation.
- Law 267 on Fire Safety (1994) establishes the legal, economic and social base of fire safety in the country and governs the coordination in combating fires.

In terms of the legal framework, the interlinkage between emergency situation service/disaster risk reduction and the water sector is supported by the Law on Fire Protection (1994) and the Inter-Ministerial Order no. 25 (2004) providing instructions on inspection and recording of the water supply sources for firefighting needs.

The project contributes to achievement of the Sustainable Development Goals (SDG) 5, 6, 11 and 13 more specifically, to the following national level selected targets and indicators:

5.5. Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life

Indicator 5.5.1: Proportion of seats held by women in (a) national parliaments and (b) local governments

6.4 By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater;

- 6.4.1. Water consumption for production needs and drinking;

6.5 By 2030, implement integrated water resources management at all levels;

- 6.5.1 Level of implementation of water management actions;

6.6 By 2020, protect and restore water-related ecosystems, including forests, wetlands, rivers, aquifers and lakes;

- 6.6.1 Change in the extent of water-related ecosystems over time;

11.5 By 2030, significantly reduce the direct economic losses caused by disasters;

- 11.5.1 Number of persons and affected by natural disasters per 100,000 population;
- 11.5.2 Value of economic loss attributed to disasters in relation to global GDP;

13.1. Ensure the climate-resilience by reducing by 50 percent climate-related risks and by facilitating the adaptation in 6 priority sectors – agriculture, water, health, forestry, energy and transport by 2020;

- 13.1.2 Number of persons and affected by natural disasters per 100,000 population;

13.3 Consolidating the institutional framework related to climate change and raise awareness on climate change risks and adaptation measures of all relevant stakeholders, including population;

- 13.3.2 Actions on implementing the national strategic framework on climate change.

The national SDG objectives and indicators for Moldova (developed and approved in August 2016 – June 2017) cover specific national goals and targets. These objectives and indicators, with their specific targets, will establish the background for the development of the new National Development Strategy "Moldova 2030".

The project is contributing to the National Strategy for ensuring gender equality between men and women in the Republic of Moldova for years 2017 – 2021. The overall objective of the Strategy is to empower women and achieve the real (de facto) equality between women and men in the Republic of Moldova. The intervention area 2.6 of this Strategy refers to climate change. One of the consequences of climate change is raising inequalities and discrimination between men and women. To improve that, the Strategy calls for integration of gender aspects into the climate change related policies that will be done on the local level in the framework of this project by engaging closely with women's groups in preparation of the local climate-sensitive local development plans and capacity development exercises and trainings. Furthermore, women agri-producers will have encouraged to apply for the water storage grants.

The project is fully in line with the Austrian Development Cooperation Strategy for Moldova for the years 2016-2020 specifically linked with the second thematic priority "water, environment and climate change aiming to contribute for the sustainable development of Moldova not only in the priority sector of water, environment and climate change, but also in relation to rural and urban regional development". It will be contributing to the United Nations Partnership Framework and the Country Programme Document for 2018-2022, where UNDP Moldova has committed to support further advancement of the resilient development in line with commitments assumed under the Paris Agreement and the Sendai Framework for Disaster Risk Reduction.

This proposal has been developed with guidance from the UNDP Moldova and the Country Programme Document for 2018-2020 and will contribute to Outcome 3 "the people of Moldova, especially most vulnerable, benefit from enhanced environmental governance, energy security, sustainable management of natural resources and climate".

The project will be contributing to the implementation of climate change adaptation solutions in the water sector to enable water availability for agricultural and firefighting needs through creation of water storage basins. In addition, the project will support strengthening of the climate and disaster risk management capacities at the community level through establishment of capacitated community-based rescue and firefighting brigades with access to water resources for response and recovery needs. The two-fold focus of the project will be conducive as well to strengthening of the inter-sectoral coordination and collaboration leading to water availability for resilient livelihoods and access for response and recovery needs.

II. STRATEGY

The project has been designed to support implementation of key national and sectorial strategies that would enable the country to become more resilient in the face of climate change and more prominent disaster-related shocks. While these have been thoroughly elaborated above, the following are among the keys: National Development Strategy 2030 under elaboration which puts an emphasis on climate change in relations to country's development agenda; the Rural Development and Agriculture Strategy which recognizes drought and other climate hazards as playing a major role in the sector's vulnerability; the 2017 Gender Equality Strategy ensuring gender-equality in decision-making in the context of climate change; the 2014 National Environmental Strategy and National Climate Change Strategy both calling for urgent adaptation actions across sectors; the 2012 National Decentralization Strategy to improve decision-making, planning and management of local resources, including water and irrigation and firefighting/rescue services and others.

The proposed project resulted from broad consultation with the national beneficiaries such as the Ministry of Agriculture, Regional Development and Environment and the General Inspectorate for Emergency Situations mandated with implementation of National Program for strengthening of the rescue and firefighting service in rural areas by 2020 approved through Government Decision 202 of 14.03.2013.

Further stakeholders' consultations have taken place in the selected districts of Ungheni, Leova, Cantemir, Criuleni and Hincesti, where through public hearings the project interventions have been validated. The selected districts have been screened through vulnerability criteria during the development of the Feasibility Study "*Improving resilience of rural communities to climate change by augmenting water management with small scale water reservoirs*". These districts are also part of the Government Decision # 202 from 14.03.2013 mentioned above. According to the same Government Decision, establishment of the community-based firefighting/rescue brigades should take place by 2020, and these localities also respond to the selection criteria such as the current extensive response time in case of fires/disasters, large number of vulnerable population and coverage of communities. Selection of the respective localities has taken place in coordination with the General Inspection for Emergency Situations who confirmed full support and commitment in establishment and capacity development of newly established fire/rescue teams in these priority districts.

While during the design the project has been closely coordinate with the ongoing initiatives financed and implemented by WB, IFAD, EcoContact, Structure Projects Network from Austria, CALM, EU-PPRD East mentioned above, it is also building upon a range of projects already completed with UNDP support. The following are among the keys:

- “Support to the National Adaptation Planning Process” financed by the Government of Austria and implemented by UNDP which demonstrated the benefits of water storage infrastructure in 1 community of Moldova and climate-sensitive planning in 6 others. The project has also laid the foundation for a cross-sectoral and multi stakeholders coordination mechanism on with this project will capitalize to ensure coherence and coordination. The project formulation has also been informed also by the findings of the Evaluation Report, specifically Recommendation no. 2 “the next climate change adaptation projects are to concentrate on delivery of the direct benefits to the society through the on-the-ground activities (bottom-up approach) in priority vulnerable sectors” as well as by the lessons learned which indicated that project indicators and targets should be more consistent and result-based formulated to avoid uncertainty on evaluation of achievements and implementation results. In response to the same lessons learned, the proposed design is focusing only on few priorities areas of the climate change sector such as water and fire as being the most prevailing and devastating climate and disaster risks in the conditions of limited individual institutional capacities to prepare and prevent the later.
- “Disaster and Climate Risk Management Projects” implemented separately by UNDP and WB both contributing to the enhanced capacities of the General Inspectorate for Emergency Situations to respond better to climate change and disasters with adequate policies, institutions and coordination mechanisms. At the local level, the effort was placed on assessing and reducing climate risks, as well as on preparing and responding to disasters. As a follow up of this intervention, the vision of the General Inspectorate for Emergency Situations and of the local governments have broadened to include not only response and relief actions, but also climate and disaster prevention and preparedness and risk management.

With such a broad experience in the area of climate change and disaster risk reduction, but also given the presence on the ground, UNDP will follow-up on already tested methodologies and tools intended to support the area-based development approach developed as part of the UNDP Joint Local Development Programme (JILDP). Use of the *Guide for Mainstreaming of Climate Change Adaptation into Moldova’s Policy and Planning* will enable smooth implementation of Activity 1.1. which requires preparation of the gender and climate sensitive local development strategies. The Guide has been developed in the framework of the ADA/UNDP Project “Support to the National Adaptation Planning Process in Moldova” and successfully implemented in several communities of Moldova.

The Project will also benefit from the experience, capacities and lessons learned of the UNDP Country Offices in the region, such as Armenia, Tajikistan, Kazakhstan and Serbia where similar activities were implemented successfully.

The project will apply a gender-sensitive approach across all activities to enable participation of women and gender expert during development of the local climate-sensitive local development plans and capacity development exercises and trainings. The water basins grants' scheme will be designed to include the needs of rural women farmers, thus facilitating their application. Specific attention will be paid to ensuring equal participation of women in all consultations and decision-making bodies (e.g. Project Board, etc)

UNDP uses its global experience to help countries to develop policies, leadership skills, partnering abilities, institutional capabilities and build resilience in order to sustain development results. The project will be guided by **UNDP’s 5 step capacity development approach:**

1. Engage stakeholders on capacity development
2. Assess capacities and needs
3. Formulate a capacity development response
4. Implement a capacity development response
5. Evaluate capacity development

This approach will be applied at all three levels of capacity development as they are mutually interactive: i) enabling environment (support the development of local policies and plans that incorporate the climate and disaster resilient measures); ii) organisational level (support for establishment of the community-based rescue and firefighting brigades, including the internal regulations, terms of reference for the staff and other internal documents); and iii) individual level (technical skills, knowledge and experience).

When working at the local level, the well tested community mobilization for empowerment will be applied – adjusted to the scope and needs of the project – ensuring that all interventions and initiatives are planned, established and managed with maximum involvement of the community members, thereby ensuring their ownership of initiatives. Community mobilization is a process through which action is stimulated by the community itself, or by others, that is planned, carried out and evaluated by community’s members, groups and organizations on a participatory and sustained basis to improve overall living standards in the region. As such, the process of community mobilization is also seen as a powerful tool in the empowerment of women.

In summary, the project strategy will be based on the following principles:

i. Participatory, country owned, and demand-driven

The project has been designed in consultation with relevant national and local stakeholders and ensured its relevance to the objectives and priorities of number of policy documents and commitments. The project is fully driven by the national priorities. During the project implementation, local people will be involved in the decision-making process as well as their participation in the project activities. Such an approach will ensure ownership over the process and project results which will be transposed into the business as usual processes. LPAs committed to ensure sustainability of the project interventions and will allocated separate budget lines accordingly.

ii. **Fully Transparent**

Transparency principle lies at the core of UNDP activities. With such an approach, equal participation of various stakeholders in project activities will be ensured, as well as exercised the principle of the best-value-for-money. The project team will develop an Engagement Plan for both national and local level interventions to ensure involvement of different stakeholders and their buy-in. The proactive approach to ensure the high-quality transparency will be applied by the project implementation team.

iii. **Multidisciplinary**

Reducing climate and disaster risks requires systematic efforts to analyze and manage the causal factors, including through reduced exposure to hazards, lessened vulnerability of people and property, wise management of environment and water, and improved preparedness for adverse events. The project will be implemented with systemic involvement of many government institution, NGOs and communities (balanced participation of men and women) with relevant knowledge and expertise. In combination with the scientific and factual information from different perspectives the project will build a culture of resilience in pilot regions with potential for upscaling.

iv. **Complementary to ongoing initiatives**

The project activities are designed in the way to be complementary to other national and local initiatives and to ensure synergetic operation at both national and local levels. The project is also building upon the experience gained during the implementation of the ADA/UNDP Project "Support to the national adaptation planning process". A mapping of ongoing and planned initiatives has been presented in the previous chapters as well as the coordination mechanisms to ensure coherence and coordination and coherence across sectors and various stakeholders.

v. **Oriented toward sustainable development**

The project intends to respond successfully to the most urgent climate and disaster risks communities face in 5 districts of Moldova. In fact, resources spent on strengthening climate and disaster resilience are contributing to achievement of a country's sustainable development objectives. The synergies between climate change, disaster risk reduction and sustainable development are explicitly recognized in the new post-2015 agenda for sustainable development and the project formulation has been guided by the relevant SDGs such as SDG 5, 6, 11 and 13. The Sendai Framework for Disaster Risk Reduction 2015–2030, states that while disasters significantly impede progress towards sustainable development, conversely effective disaster risk management contributes to sustainable development.

vi. **Guided by human-rights and gender-sensitive approaches**

The Project's implementation will be based on Human Rights and Gender Equality approach. The project activities will contribute to women's empowerment. In the context of adaptation interventions in the water sector for agricultural purposes, a gender-transformative approach entails not only improving women's access to key services but also support women's active involvement in decision-making. At the same time, the project activities will help communities understand the challenges and social norms that perpetuate stereotypes limiting women's role to that of household managers rather than active agents of change. It also involves engaging men in cooperation with women at all levels, according to gender transformative approach. The project will therefore place specific attention on reaching out to women and ensuring their participation in all consultations and decision-making bodies of the project and in facilitating access to water for agricultural needs. All consultants supporting the development of strategies and plans will be required to use to the extent possible sex-disaggregated data for policy design, monitoring and reporting. In addition, an ex-ante gender impact analysis will be conducted at the developed local plans to assess the potential effects on women of the proposed policy changes. Facilitated access of women to water for agricultural needs will be specifically integrated into the design of Water Basins Grants Scheme as well as linked strongly with the capacity development and dissemination activities, specifically addressing female farmers and focusing on the needs of rural women and girls. The Project Logical Framework establishes at the Outcome and Impact level sex-disaggregated indicators to be monitored and reported accordingly. All analytical products commissioned and undertaken by the project will require the collection and analysis of sex-disaggregated data to the extent possible UNDP will actively encourage equal representation and participation of women and men in all project decision making bodies like the Project Board and National Commissions (representatives are usually nominated by the respective institutions). For

recruitments of staff and experts undertaken by UNDP, UNDP Moldova's gender sensitive Human Resources and Management office will apply, specifically encouraging qualified women to apply and promoting gender balance in all selection and recruitment panels.

Natural and man-made disasters have the potential to negatively affect human rights, such as the right to life, health, property, making more difficult for individuals to meet basic survival needs such as food, water and shelter. The idea of resilience is often linked to individuals' ability to cope with natural and man-made hazards, which may be key in avoiding a situation escalating into a disaster. It is generally accepted that vulnerable members of a society are more likely to face serious human rights violations. Although there are various underlying roots and causes of vulnerability, the disregard of basic human rights such as the right to housing, the right to life, and the right to liberty and security of the person makes societies even more vulnerable to natural and man-made hazards. The design of the project has been guided by the principles of the human right-based approach, which ensures that the most vulnerable in the society are prioritized in the context of climate and disaster risk management.

vii. Guided by the sound environmental and social management

All project activities will be implemented considering national environmental requirements including for Strategic Environmental Assessment, Environmental Impact Assessment and Ecological Expertise where necessary. The project would not make any change in land use, and no interventions are planned in the protected areas. The expected environmental impact and pollution is expected from the construction of water storage basins and refurbishing of the premises allocated for firefighting stations by the LPAs. In terms of the water storage basins these are designed to use available resource such as rainwater without any expected major harm to the environment. The project will promote use of the most resource efficient and sustainable irrigation systems (e.g. drip irrigation) and in the application package, the support package beneficiaries will be requested to confirm the use of the climate-smart agricultural practices (e.g. till, no till) or the intention to switch to such practices which enable maintaining of the soil moisture for a longer period of time. In that sense, the baseline analysis, which is part of Environmental Impact Assessment, Risk Management and Sustainability Plan (EIARMSP), to be conducted at the potential sites will describe the current agricultural practices, crop profiles and yields and how the water to be used for irrigation might contribute to more efficient farming systems. In addition, the project will be looking at resource efficiency and pollution prevention across any value chains, e.g. agriculture, transport etc. The project does not envisage encroachment into protected areas to put under threat biodiversity, nor to introduce any invasive alien species. Construction of the water basins will take place with consideration of biodiversity-important habitat. Access of farmers associations to the water basins scheme will be facilitated to ensure fair distribution of water services to community members part of the respective associations. Furthermore, the project does not plan any actions to lead to displacement and resettlement of people. The project will produce impact of medium significance in terms of noise, dust, and others appropriately described in Annex 7 with corresponding mitigations measures and monitoring plan. In addition, once the water basins sites are identified, and the baseline analysis, which is part of EIARMSP, completed in the first six months of implementation, the project team shall conduct targeted EIA at the sites to check if any additional potential social and environmental threat are expected. Shall the EIA identify such threats; the existing Environmental Management Plan and Monitoring Plan will be updated accordingly and presented in the periodic reports to ADA. The findings of the EIA will be incorporated in the first progress report.

Database for analysis and design

A series of consultation meetings were held with key stakeholders, general public, NGOs and LPAs and an extensive literature review was conducted to identify the baseline in support to the project design. The literature review consisted of existing documents on climate change adaptation, risk assessment and resilience in Moldova and, as well as Government policies and programs. Among reviewed documents were UNFCCC reports, climate change scenarios, national statistical data, reports on genders, various studies etc. The starting point was National Program for strengthening of the rescue and firefighting service in rural areas by 2020 approved through Government Decision 202 of 14.03.2013 and National Development Strategy 2030. The Government was very helpful in sharing available data and expertise, especially GIES who provided all the necessary data including disaggregated statistical data for target communities in terms of gender, social aspects and vulnerability. See annex no. 4 for the list of reviewed literature.

Harmonization

The Sustainable Development Agenda 2030 urges for exploration of synergies and for an enhanced coherence in addressing the cross-cutting challenges of climate change and disaster risk reduction with participation of multiple actors. At the country level, this is harmonized through the Climate Change Adaptation Strategy of Moldova (NAS) which provides for a complementary approach on the development opportunities

for resilient societies. In pursuing this goal, the Strategy calls for establishment of an integrated coordinated mechanism in the area of climate change.

In response to the National Adaptation Strategy, the Government Decision for creation of the National Climate Change Coordination Mechanism is under public consultations and its approval is expected by the end of 2018. The Coordination Mechanism consists of the National Commission on Climate Change with representatives from the key sectors, which is responsible for meeting the requirements of the UN Framework Convention on Climate Change, to avoid duplication and to ensure that the development properties of the country are reflective of climate change concerns.

Institutionally, the Ministry of Agriculture, Regional Development and Environment is the key governmental agency in Moldova responsible for climate change policies and programmes, sustainable agricultural production and rural development. The Ministry will play a key coordinating role in implementation of the proposed project and will make sure that it is closely aligned with national climate change policies and ongoing and future initiatives pertaining to agriculture, water security and community development. Furthermore, in the framework of this project the Ministry will promote the collaborative approach between the above-identified sectors to pilot climate change adaptation solutions, relevant equally for the water and the agricultural sector. The respective role will be exercised through donor coordination meetings, but also through the project board meeting where the Ministry of Agriculture, Regional Development and Environment will play one of the key leading roles. The donor coordination meetings are an effective enabling platform for exchange of information among donors, and through this UNDP will be able to map relevant parallel initiatives to avoid further on duplication and overlapping, to potentially synergize on various activities of the project and to disseminate and ensure visibility of the project results and of the donor.

The project will help to build a case for revamping of the Disaster Risk Reduction Coordination Council which previously supported with coordination in the area of climate and disaster risk management under mandate of the National Inspectorate for Emergency Situations. In addition to the coordination role, the Council will support enhance the national ownership and leadership for climate and disaster resilient development and to advocate for resource mobilization for the purpose of upscaling the project's initiatives. Specifically, bilateral donors with interest and track record on funding climate and disaster risk management initiatives will be actively approached to be part of the Council, including Government of Switzerland/SDC, Government of Turkey/TIKA, Government of Sweden/SIDA, and other bilateral donors such as Denmark, Norway, or Russia.

Furthermore, the project will closely coordinate with the WB that is currently implementing the "*Moldova Competitiveness Project*" intending to support agriculture recovery and growth in the face of climate change in rural communities of Moldova. In parallel, the World Bank has initiated the Water Security Diagnostic and Outlook, and the project will support with lessons learned and insights for future priority investments decisions in the context of water, climate change and agriculture interlinkage.

The project will closely cooperate with the *Rural Resilience Project (IFAD VI)* which aims at improving the living standards of the rural population in the Republic of Moldova and to reduce poverty. IFAD VI interventions will address aspects of assistance to structural measures applied in agriculture, poverty reduction and migration flow in rural areas, food safety and security, vulnerability to climate change and increased competitiveness. The project will strengthen the efforts in ensuring income growth for farmers and increase the resilience to climate change

In addition, the project team will liaise with the "Strengthening the institutional framework in the water and sanitation sector in the Republic of Moldova" (IFSP) Project, Phase 01, financed by ADA and SDC. The local Drought Crisis Management Plan to be prepared by this project as part of Activity 1.1. will capitalize on the knowledge base and experience of the IFSP Project which is embarking on development of the IFSP Drought and Floods Risk Management Plans. Given that the Drought Crisis Management Plan is focusing on the local level, it will feed into the nation-wide Drought and Floods Risk Management Plans. Furthermore, the collaboration between the two projects will provide a platform for advocacy on need to strengthen the interlinkage between climate change adaptation, water management and disaster risk reduction in relation to water stress.

Intervention logic

In order to increase the community resilience to climate and disaster risks it is necessary to strengthen local policies, capacities and infrastructure. However, a set of institutional, financial, technological and informational barriers have been identified as preventing resilient development in the context of climate variability and change. While these are described in detail below, the cause-effect relationship associated with the most pressing climate change risks (drought, fires) in rural communities of Moldova is presented in Annex 8. Those barriers are as follows:

Barrier 1. Weak local planning capacities for climate adaptation and disaster risk reduction

The concept of climate change adaptation and disaster risk reduction is still acknowledged with limitations by the key stakeholders especially at the local level. Most of decision makers do not fully understand the need of

integrating climate change adaptation and disaster risk reduction into local development policies and the cost of inaction. In particular, technical staff at the local levels, who are directly involved in the water resource management and agricultural development, have not been exposed to the information/analysis, knowledge and tools necessary to take climate and disaster risks seriously while planning for local development. The benefits of such an approach are also unknown within the rural communities. As a result, the potentials for climate and disaster risk reduction actions are not fully harnessed in the key local policy planning frameworks.

Barrier 2. Weak local capacities to uptake new measures and technologies that support resilient livelihoods

Under the pending climate change risks, the supply and management of water is becoming increasingly challenging. As a result, already vulnerable communities are becoming even more vulnerable. Changing practices and the local reality require upgraded skills and knowledge, both those promoting the change and those likely to benefit from it. There is a shortage of technical knowledge and capacity to put in place small-scale water storage basins. While most of the projects and initiatives are introducing new environmental practices in the agricultural sector, these most often are not tailored to local conditions, leading to low uptake.

Barrier 3. Limited financial resources to put in place climate-smart water systems for agricultural use and to fight fires in the context of increased aridization and response actions.

Moldova is a lower middle-income country encountering pressing development challenges including persistent poverty, growing inequality, vulnerability to macroeconomic shocks and to climate change. In this context, the financial resources are insufficient to fully address long-term systemic problems. Such an approach would require a paradigm shift in prioritization of financing in the key sectors of the country reflective of the most urgent climate and disaster risks and projections.

Barrier 4. Lack of water for agricultural use

There is increasing evidence that agricultural systems are unsustainable in the long-term in the face of decreasing water resources, the availability of which is being exacerbated by climate change. At the same time, while precipitation is expected to decrease in the following 20 years, rainfall events are expected to be larger. Such a perspective requires consideration of infrastructure in the agricultural sector to capture water for irrigation needs and to increase provisions against soil erosion.

Barrier 5. Gender not considered a priority in the climate change and disaster risk reduction context at local level

Moldova's rural women are four times more prone to absolute poverty than urban women and more vulnerable to climate change, requiring targeted actions towards enhancing their access to income generation activities and support services, as well as information and knowledge on resilient management of agricultural resources on which they depend. By shifting the focus from vulnerability to empowerment, adaptation responses have the potential to transform into gender equality opportunities. Such an approach would overturn gender stereotypes, compounded by social and cultural norms and will empower women to become agents of change.

Barrier 6. Limited knowledge and individual capacities at the local level to fight fires in the context of increased aridization and response actions

There is no firefighting and rescue services at all in Pirlita, Saratei, Baimaclia, Drasliceni, and Sarata Galbena and neighbouring communities. None of LPAs in those communities have made before fire response, contingency, fire safety or emergency plans and have never had the opportunity to participate in related trainings. Most of firefighting brigades are concentrated in urban areas and as a result the intervention radius for rural areas reach 40-50 km (where 60% of the total number of fires occur). Subsequently, in case of fire events, the risks of life loss and ecosystems damages is high.

Barrier 7. Limited awareness of rural population on climate and disaster risks prevention and response

Implementation of previous climate and disaster related projects showed that awareness raising and capacity development is essential to build a culture of resilience. This is especially important in rural areas, given that communities are the first lines in the context of disaster-prone country, which need to be capacitated and trained to prevent and respond to climate risks.

The project will address all of the above-mentioned barriers whether these relate to climate change planning capacities, technology transfer and provision of seed financing for making available water for irrigation, to capacity development and establishment of rescue and firefighting brigades equipped to respond to fires and protect the people in case of other disasters such as floods.

Preparation of implementation

With the allocation of resources for various expertise, the project will initiate implementation of all four activities concurrently.

Nevertheless, a Project Inception Workshop will be held within the first 6 months of project start with those with assigned roles in the project organization structure, the UNDP country office and where appropriate/feasible regional technical policy and programme advisors as well as other stakeholders. The

Inception Workshop is crucial to building ownership for the project results and to plan the first-year annual work plan. The Inception Workshop should address a number of key issues including:

- Assist all partners to fully understand and take ownership of the project. Detail the roles, support services and complementary responsibilities of UNDP CO, project staff and project partners and stakeholders vis-à-vis the project team. Discuss the roles, functions, and responsibilities within the project's decision-making structures, including reporting and communication lines, and conflict resolution mechanisms.
- Based on the project results framework finalize the first annual work plan. Review and agree on the indicators, targets and their means of verification, and recheck assumptions and risks.
- Provide a detailed overview of reporting, monitoring and evaluation (M&E) requirements. The Monitoring and Evaluation work plan and budget should be agreed and scheduled.
- Discuss financial reporting procedures and obligations.
- Plan and schedule Project Board meetings. Roles and responsibilities of all project organization structures should be clarified, and meetings planned. The first Project Board meeting should be held within the first 12 months following the inception workshop.

An Inception Workshop report is a key reference document and must be prepared and shared with participants to formalize various agreements and plans decided during the meeting.

III. RESULTS AND PARTNERSHIPS

Impact

The expected impact of the project in terms of "***Improved resilience of rural communities' livelihoods in the face of climate change***" is responding to the long-term overarching objective of the National Development Strategy 2030 under public consultations which also acknowledge that drought and flood represent the most pressing climate change risks which require adaptation actions to reduce the vulnerability and exposure of rural communities of Moldova.

Furthermore, it is in line with the overall understanding that "*a resilient community is the one where the growth and poverty reduction are less negatively impacted by climate variability and change*" because the most pressing climate and disaster risks are properly acknowledged, and adaptation response measures are well in place.

Outcome

By pursuing achievement of "strengthened local policies, capacities and infrastructure" the project intends to "enable climate and disaster resilient development at the community level" where dependence on agriculture prevail while at the same time to build a culture of prevention, preparedness and response in the face of the most pressing climate and disaster risks.

The project's expected outcome is therefore: ***Strengthened local policies, capacities and infrastructure which enable climate and disaster resilient development at the community level***

Outputs

Output 1 - Adaptation interventions in the water sector for agricultural purposes and flood management demonstrated and local climate change related policy frameworks in place in a selected number of districts

The objective of this output is to create an enabling environment for local resilient livelihoods through improved climate-sensitive planning and climate-smart agriculture approaches at the community level to increase water availability for agricultural livelihoods and protect from floods.

Output 2 - Community-level climate and disaster management capacities improved for disaster risk reduction, prevention and timely response

The objective of this output is to enhance local disaster risk reduction capacities in a decentralized manner through establishment of capacitated community-based rescue and firefighting brigades with access to resources for response and recovery needs.

Inputs / Activities

Output 1 - Adaptation interventions in the water sector for agricultural purposes and flood management demonstrated and local climate change related policy frameworks in place in a selected number of districts

Activity 1.1. Mainstream climate change adaptation and disaster risk management priorities into local development planning frameworks in a participatory and gender-sensitive manner

The current community-level development strategies do not reflect sufficiently the linkage between the climate change adaptation, disaster risk and water management which in the absence of response measures leads to floods, decreasing of water availability and access to water resources impeding resilient livelihoods. Furthermore, following the *Sectoral Gap Analysis* to assess the capacities to address climate change at various levels, conducted as part of *ADA/UNDP Project "Support to the National Adaptation Planning Process in Moldova"*, climate change and adaptation are not reflected in the regional and local development plans and therefore not funded. The training opportunities for the local government staff are also missing, due to which climate awareness and education is limited. Therefore, given in addition the cross-sectorial nature of climate change, this activity will focus on mainstreaming of disaster and climate risks into 5 local development planning with intention to widely involve various stakeholders ranging from, LPAs, private sector, local communities to vulnerable groups, into policy and decision-making over priorities that affect their well-being. The private sector along with the other target groups will participate in identification of the adaptation needs for the priority sectors in the local development context, in reviewing of the current local budgets and securing of allocations for implementation of these needs, as well as will in formulation of appropriate financial instruments and mechanisms related to water stress.

Implementation of this activity will capitalize on the methodologies and lessons learned of the *ADA/UNDP Project "Support to the National Adaptation Planning Process in Moldova"*, which identify that mainstreaming of climate change adaptation into local development planning process requires an understanding of major climate-related threats to the socio-economic development of the region. Therefore, as a first step, the project will conduct an analysis of local economic capacities in Ungheni, Leova, Cantemir, Criuleni and Hincesti, and a scanning of socio-economic and environmental vulnerabilities based on which the vision towards their resilient development priorities will be established. The selected districts have been screened through the livelihood vulnerability index identified in the 3rd National Communication to UNFCCC¹⁶ and through the physical suitability criteria such as: location - junction of two streams, floodplain location (i.e., slope of less than 5%) and community/village land use pattern (i.e., distance of 50 m and less from agricultural land); hydrology-surface water runoff and depth of water table; soil -soil loss tolerance (i.e., resistance to erosion). The respective criteria had been applied during the development of the *Feasibility Study "Improving resilience of rural communities to climate change by augmenting water management with small scale water reservoirs"*¹⁷. Due to high incidence of fires, these districts are also on the priority list of the GIES in terms of establishment of the community-based firefighting/rescue brigades in line with the Government Decision # 202 from 14.03.2013 providing for expansion of community-based fire and rescue team in rural areas of Moldova. According to the same Government Decision, establishment of the community-based firefighting/rescue brigades should take place by 2020, and these localities also respond to the selection criteria such as the current extensive response time in case of fires/disasters, large number of vulnerable population and coverage of communities. Selection of the respective localities has taken place in coordination with the General Inspectorate for Emergency Situations who confirmed full support and commitment in establishment and capacity development of newly established fire/rescue teams in these priority districts. The public hearings conducted during August-September 2018 in the respective localities have proven again the LPAs' and community members' interest and commitment for project interventions and the urgent need for water storage reservoirs for agricultural needs and establishment of the fire brigades and rescue teams. During the screening of the local development plans and programmes against climate risks, the *Guide for Mainstreaming of Climate Change Adaptation into Moldova's Policy and Planning* will be applied. The Guide has been developed in the

¹⁶ <https://unfccc.int/resource/docs/natc/mdanc3.pdf>

¹⁷ The recommendations outlined in the Feasibility Study are aimed at increasing the resilience and adaptive capacity of smallholder farmers to climate variability and extreme events. Moldova has made considerable progress in developing a strong institutional base for effective climate change adaptation in recent years. The *Strategy for Adaptation to Climate Change by 2020* is a key policy milestone. The Government has also been clear regarding the importance of both mitigation and adaptation action and is committed implementing plans both to reduce emissions and protect development through adaptation. Moldova's policy framework is being supported by clear action to implement adaptation, but the efforts remain small-scale and often fragmented. They are also under-funded, and funding constraints are reducing the effectiveness of technical solutions to promote adaptation. Successful pilots exist, but these are not being scaled up and opportunities for complementarity to deepen impact have not yet been fully explored. In terms of pressing adaptation needs, availability of agricultural water to ensure food security and sustain rural livelihoods and incomes is a clear priority both in policy and human terms. Efforts to manage water resources and support increased irrigation-based agriculture must be core to any adaptation effort. It is also clear that the full potential of actions such as SSWR has co-benefits in both in term of disaster risk reduction and IRWM that should be fully explored. These should be embedded in wider development issues that show how integrated action generates community benefits not only in maintaining traditional livelihoods but also in protecting assets and development gains.

framework of the *ADA/UNDP Project "Support to the National Adaptation Planning Process in Moldova"* and successfully tested in 6 districts of Moldova. The screening helps identify the appropriate adaptation measures recommended for mainstreaming, review of local current spending, identification of appropriate financial instruments and mechanisms for financing (performance-based budgeting) and the current adaptation opportunities in priority sectors.

During preparation of the project proposal analysis and needs assessment, lessons learned and including gender specific analysis and data were used, pointing to the obvious need that women need empowerment in terms of local development planning and decision-making over the distribution and use of resources at the local level and accessing of funds in support to resilient livelihoods. More in-depth gender-sensitive consultations are nevertheless foreseen during the Project Inception phase at the outset of activities. Therefore, the whole local development planning exercise will be conducted in a gender-sensitive manner by acknowledging the differentiated impact of climate change on men and women and by taking into consideration the role of women and girls in the decision-making. An ex-ante gender impact analysis of the developed local plans will be conducted to assess the potential effects on women of the proposed policy changes. The analysis will guide by such principles as equal participation of women and men in the revision of the local development strategies, provision of equal access to the planned resources (funds, information, services) and consideration of human-rights and gender roles and norms in Moldovan communities. In parallel with the local development plans, the project will deploy dedicated training events for local planners on the use of tools and approaches to advance climate and disaster planning, budgeting and implementation and to reinforce the understanding of the country's climate profile and scenarios, risks and opportunities and to strengthen the adaptation ownership. The trainings will follow the key principles embedded in the *"UNDP Quality Standards for the integration of adaptation to climate change into development programming"* methodology. As part of this activity, the project will be exploring the opportunities for developing the Crisis Management Plan for severe drought conditions in the selected communities. The Plan will create an enabling environment for response measures and management of a drought crisis and will be developed with consideration of the priorities among different water users, their access to water during severe droughts and the roles and responsibilities of various responders in such a situation. During its preparation wide participation of women, women-led households and such vulnerable groups as low-income households, elderly and people with disabilities will be ensured. The Plan will build on the collected socio-economic information, climate risk assessment (part of which will be analysis of weather and precipitation patterns and future scenarios), as well as analysis of water user, and identification of the crisis management group and drought management contacts. The roadmap for development of the Drought Crisis Management Plan will be detailed at the inception phase.

Activity 1.2. Pilot water storage infrastructures in 5 districts of the country to enhance adaptation to climate change in the water sector

Water is an important resource for sustainable development, however under the pending climate change risks its supply and management is becoming increasingly challenging. During droughts and dry spells water availability and access is limiting the agricultural activities on which most of the rural population in Moldova rely, while the floods put at risk the investments into local development. In this context and building upon the climate-sensitive local development prioritization process initiated under activity 1.1., this activity will support the same 5 districts in Moldova (Ungheni, Leova, Cantemir, Criuleni and Hincesti) to put in place water storage basins to collect rainwater and run-offs and groundwater, where appropriate, for agricultural needs. The basins will also have the role of flood protection. For that purpose, the project team will attempt to identify basin locations which would foster a multi-purpose use of the respective basins. While the benefits of such basins include increased water availability and ultimately enhanced agricultural production, the LPAs, civil society and private sector representatives will benefit from support packages including awareness raising and education events dedicated to climate change, appropriate capacity development and financing to put in place water storage basins. The beneficiaries of such support packages will be informed and made aware that, as water users, they are obliged to use water rationally and economically and to take measures for the protection of waters against pollution.

Such an approach will ensure that project beneficiaries have the whole set of knowledge and skills required for implementation of water actions tailored to climate change with potential for transfer of know-how, replication and upscaling. More specifically, the following sub-activities will be carried out:

- *1.2.i: Identification of at least 15 agri-producers:* A call for expression of interest for water storage basins will be announced for local farmers/farm associations covering the selected pilot districts. From the total number of applicants as many as 15 agri-producers (3 in each 5 district) will be selected (based inclusively on the baseline analysis, which is part of EIARMSP, to be undertaken in 1.2.ii) to benefit from a support package needed to establish the water storage basins. The support package will include the required expertise and guidance from the UNDP team in terms of technical and legal requirements for construction of the basin, provision of relevant goods, works and services covered financially from the project budget, advice from the project's irrigation specialist in term of selection of the most efficient and sustainable irrigation technologies, and how this could help the farmer increase

the yields. The farmers would have to demonstrate that he/she is a legal tenant of the agricultural farm, and that he/she is interested to use the water basins for irrigation purposes (e.g. for perennial crops, or for orchard etc.), to co-finance with at least 20% of the total cost, and to secure from LPAs and communities the approvals for the water basins' sites (if, required). The necessary approvals and permits for special use of water, according to the Law on water will also need to be secured. In the application package, the beneficiary will be requested to commit for the use of the most efficient and sustainable irrigation techniques (i.e. drip irrigation, etc.) in order to ensure proper water saving and avoid pollution, but also application of best agricultural practices (e.g. mulching, minimum till, etc.) which enable maintaining of the soil moisture under the pending climate risks. In addition, it will be attempted that the beneficiaries of the basins enable the multi-purpose use of the basins, including for firefighting. It will be explored the possibility of including such provisions in the contractual arrangements with the operators of the basins (i.e. the agri-producers). The maximum amount of the support package per one applicant would be around 30,000 USD, subject to confirmation at the initiation stage of the project. Participation of women-led farms in the support package will be highly encouraged and facilitated, especially through community-mobilization campaigns accompanying this sub-activity, but also through the women's empowerment trainings events deployed by the gender specialist of the project. Participation of the extension services in community mobilization efforts and dissemination of results will also be explored. Selection from the total number of applicants will also rely on the baseline analysis, which is part of EIARMSP, to be conducted under sub-activity 1.2.ii. and which will determine the feasibility of the proposed sites from the hydrological, engineering, land and soil conditions, climate predictions and other perspectives described below. The additional details of the support package will be described at the initiation phase of the project based on the findings of the baseline analysis which is part of EIARMSP, (sub-activity 1.2.ii) and these will build on UNDP's wide successful experience to disburse and implement local development support packages.

- *1.2.ii: Identification of water storage sites:* For this purpose, an analysis will be carried out in the 5 selected pilot districts and, more specifically, at the sites proposed by the farmers/farmers' associations which expressed interest in the support package as part of the call announced under sub-activity 1.2.i. The baseline analysis, which is part of EIARMSP, will cover such aspects as the hydrology, topography, soil and land condition, as well as climate risk assessment, and the engineering insights. In addition, the potential agri-producers will be analyzed in terms of their crop profiles, yield levels and the applied agricultural practices as well as their willingness to switch to the best agricultural practices with the purpose to ensure land and soil improvement.
- *1.2.iii: Conduct capacity development activities for agri-producers* from the pilot communities on adaptation solutions in the agriculture and water sectors and sustainable use of natural resources with the support of the existing extension services; The proposed capacity development will focus on the transfer of knowledge and information gathered during establishment of the water storage basins with the purpose to ensure its upscaling and replication, but also for promotion of the climate change adaptation solutions in relation to the water stress and of climate smart agriculture technologies.
- *1.2.iv: Construction of water storage basins:* The water and climate change expert to be hired by the project will support in identification of the water storage sites in line with the findings of the Feasibility Study "Improving resilience of rural communities to climate change by augmenting water management with small scale water reservoirs" conducted under the ADA/UNDP Project "Supporting National Adaptation Planning Process in Moldova and will provide the required expertise for the development of the environmental, gender and social impact assessment and/or ecological expertise in line with the national legislation and ADA's & UNDP's relevant requirements. Shall the proposed project works trigger any social and environmental safeguards other than those identified already in the attached Social, Gender and Environmental Standards Assessment, the existing Environmental Management Plan for this project identified in Annex 7 will be updated and monitored in terms of implementation throughout the lifetime of the project. The project engineer will be tasked to prepare the bills of quantities for all 15 reservoirs and support in contracting of the construction companies, as well as to ensure that the construction works abide by the national legislation. The type and amount of the works, services and goods required for establishment of the basins will be determined by the baseline analysis of the sites and by the bill of quantities to be developed by the engineer for each site. Purchasing of the such works, services and goods will be conducted in line with the UNDP procurement rules. The construction companies would be responsible for, among other things:
 - Execution of contract according to each sub-project plan;
 - Execution of contract in agreed time frame;
 - Quality and quantity of works, materials and equipment in compliance with national legislation, norms and standards;
 - Engineering setup, and putting in operation of any installation or equipment according to sub-project design and national norms and standards;
 - Training of farmers in operation of any installation or equipment (if any);
 - Participation in final commissioning of completed sub-project;

- Labour security during execution of works, compliance with fire protection, and environmental protection standards

The project team together with the Apele Moldovei Agency/Water Authority and the engineer will execute the overall supervision of sub-projects implementation and will be responsible for: (i) monitoring and supervising contract execution; and (ii) commissioning of completed works in line with UNDP rules and regulations. Tendering of works, services and goods will be conducted by UNDP in line with the procurement rules. The respective activity will be implemented with 20% co-financing contribution from the private sector, a provision to be envisaged in the relevant agreements to be concluded between UNDP and the beneficiaries.

Output 2 - Community-level climate and disaster management capacities improved for disaster risk reduction, prevention and timely response

Activity 2.1 Establish Community-based rescue and firefighting brigades in the most vulnerable and risk exposed districts of the country

The water sector provides services vital for the health, economy and environment of a community, and it is a critical element of rural resilience. It is also a key determinant of the rural wellbeing. Water availability is crucial for a community to be able to prevent, respond and recover during disasters. In this sense, the water storage basins to be put in place by the project serve as an insurance mechanism for the smallholder farmers and act as a buffer against the variability of the rainfall regimes thus reducing the risks of drought, flood and fire. As such, it increases the resilience of the farmers against dry spells and rain-fed crop failure, prevents floods and provides water for firefighting. Managing water-related risks requires a holistic approach and improved coherence across sectors such as climate change adaptation, water management and disaster risk reduction.

In Moldova the interlinkage between water sector and disaster risk reduction is supported by the Law on Fire Protection (1994), the Inter-Ministerial Order no. 25 (2004) providing instructions on inspection and recording of the water supply sources for firefighting needs¹⁸ but also by the Law on Civil Protection and Emergency Situations (2007)¹⁹. These normative acts provide that the fire protection units should have access to water for firefighting needs, inspect and monitor them, while at the same time being aware of the status of the water lakes/ponds to be able to prevent floods and to respond in case of water-related risk.

Provision of water storage infrastructures at the community level, along with the local development plans which build on solid climate risk assessment and good knowledge of potential water-related risks (Output 1), coupled with establishment of rescue and firefighting teams at the local level (Output2), is a holistic approach for disaster risk reduction.

Such measures should strengthen the capacities of the local communities to anticipate, cope with, and recover from disasters, which are currently limited. It means investments into such capacities as infrastructure, institutions, human knowledge and skills, but also into collective attributes such as social relationships, leadership and management (UNISDR 2017).

Community-based rescue and firefighting teams with proper access to education and trainings, infrastructure and water resources can be extremely efficient in rural areas for disaster risk reduction as these are familiar with local conditions and vulnerabilities and can engage into disaster response and recovery immediately. Given that lately the incidence of fire and other hydro-meteorological hazards is on the rise in rural areas of Moldova and the existing evidence of the country's climate becoming more arid, establishment of the community-based rescue and firefighting teams as well as provision of access to water resources is a prerequisite for sustainable local development. This is especially important in the conditions where the rescue and firefighting services have been decentralized and transferred under responsibility of the local governments which are lacking knowledge and capacities to pitch for financing required for establishment of such units. In the same context, local governments require strengthening of collective attributes such as social relationships, leadership and management. Expansion of community-based rescue and firefighting teams is envisaged in the National Programme on Consolidation of the Firefighting Services in Rural Communities which sets as a target a total number of 114 such posts to be established by 2020. Such a network shall ensure that the response time in case of fire and other natural and human driven disasters is within the existing standards. While it is the responsibility of the local governments to establish such units, the General Inspection for Emergency Situations is in charge of implementation of the Government Decision #202 from 14.03.2013 by which the above-mentioned National Programme was approved. From this perspective during design and consultation of this project, the GIES has demonstrated strong leadership and ownership for the respective output 2, facilitating liaising with the LPAs and communities from the pilot region. The role of the GIES is also seen as major in securing co-funding from the national budget to support establishment of the rescue and firefighting units in the selected communities, as well as to provide training and transfer of the disaster risk management knowledge and skills on the ground. Once established with project support, the GIES is entrusted

¹⁸ <http://dse.md/sites/default/files/pdf/Instru%C7%A2iune%20eviden%C7%A2i%20sursele%20de%20apa.pdf>

¹⁹ <http://dse.md/ro/acte-legislative>

by its mandate to continuously foster the individual capacities of the community-based rescue and firefighting teams part of the national network to be expected to happen even after the project closure.

The project will support the Government of Moldova to establish 5 rescue and firefighting units in Pirlita, Saratei, Baimaclia, Drasliceni, and Sarata-Galbena communities as part of the national network. Those units will have an intervention area from 6 to 17 neighbouring communities, serving approximately 58 714 people (including about 50% women).

Table 1. General information about intervention area

District	Community	General information about intervention area
Ungheni	Pirlita	# of localities – 15 # of vulnerable households – 449 # of local population – 19 860 % of women – 51
Leova	Sarateni	# of localities – 17 # of vulnerable households – 85 # of local population – 11 411 % of women – 51
Cantemir	Baimaclia	# of localities - 11 # of vulnerable households – 290 # of local population – 9 206 % of women – 50
Criuleni	Drasliceni	# of localities - 6 # of vulnerable households – 121 # of local population – 9 961 % of women – 51
Hancesti	Sarata-Galbena	# of localities - 6 # of vulnerable households – 45 # of local population – 8 276 % of women – 50

While the project will be supporting establishment of the community-based rescue and firefighting teams in terms of guidance and seed funding, implementation of this output will be community-led. In that sense, the potential of the Local Actions Groups to lead and engage with the local population on priority issues will be harnessed. The Local Actions Groups (LAGs) have emerged in rural areas of Moldova in line with the EU model and have so far been used as an efficient instrument for engagement by UNDP on other community-based initiatives. At the initiation phase, the project team in partnership with LAGs and GIES will carry out in each selected community an inception meeting for the LPAs and community members including representatives of the mayor's office, local council, managers of community public institutions and social services, agricultural entrepreneurs, and other active women's groups. The purpose of the meeting would be to kick-off the discussion on project objectives, funding, time frame, opportunities, and to lay a foundation for the further evolution of the project. During the meeting, it is expected that the Task Force, consisting predominantly of women, will be empowered to (i) mobilize the community; (ii) secure funding in the local budgets for the operation of the units for any rescue and firefighting equipment; (iii) monitor and supervise execution of refurbishment works of rescue and firefighting brigade premises; and (iii) commissioning of completed works.

Each LPA from Pirlita, Saratei, Baimaclia, Drasliceni, and Sarata Galbena committed (letters of interest attached) to provide premises to accommodate the rescue/firefighting staff while on duty and a garage for the location of specialized vehicle, protective equipment. During the project elaboration phase commitments were made not only by the LPAs from the localities where the brigades will be established, but also from the neighbouring localities that are in the intervention area. All LPA from these localities will contribute to the maintenance of the post. To achieve this, a cooperation agreement between the community where the post will be established will be signed with all localities neighbouring the post at the inception phase. As many as 5 such agreements will be signed corresponding to the number of established posts. The agreements will specify the financial contributions of each LPA Maintenance, covering such budget items as maintenance costs and the salaries of the staff, within and beyond the project's lifetime. The contribution of LPAs will be calculated based on the number of inhabitants in each village. No equipment will be purchased until the respective co-funding has been secured. The number of beneficiary localities per post are indicated in the table above. The LPAs are also responsible for providing nearby access to water (hydrant) or to any other

water source regardless of their ownership in accordance with the Law on Fire Protection (1994)²⁰. Each unit is to be composed of 10 permanent staff employed by LPAs thus this project component will contribute to creation of 50 permanent jobs (new opportunities for women and men) in rural areas of Moldova. Engagement of women in rescue and fire protection will be encouraged and promoted widely during the capacity development and awareness raising campaigns, which will build on the analysis of stereotypes and social construction of the communities, but also on the identified barriers preventing women from engaging in rescue and firefighting services. During renovation of premises consideration will be paid to the different needs of women and men and resource efficiency and pollution prevention measures, while purchasing of rescue and firefighting infrastructure will guide by "green" aspects. UNDP Moldova will conduct a tender on procurement of five specialized vehicles (one per each community) and in that sense a strong cooperation will be established with the "Structure Projects Network" in order to build on the experience of this organization and on established network in Austria. The rescue and firefighting staff is obliged by the Law on Fire Protection # 267 as of 09.11.1994 to wear uniforms, protective equipment and distinguishing marks and to operate based on the Regulation issued by the General Inspectorate for Emergency Situations and approved by the Government. Each unit will be equipped accordingly, respecting Moldova and EU norms and regulations.

Each selected LPA will be responsible for refurbishing and furnishing premises intended for rescue and firefighting service and the project will contribute to these necessities as well with up to 5 000 USD per post. An engineer hired by UNDP will monitor and supervise the refurbishing works and commissioning of these. Furthermore, the LPAs will be responsible for allocation of the resources needed to cover the running costs of the posts (salaries, fuel, and maintenance). Yearly maintenance of each post is estimated at about 15 000 EUR which will be the contribution of the LPAs to be covered from the local level budgets and national allocation to be secured by the GIES. In order to ensure that budget allocations are provided timely by the LPAs and that these cover the needs of the respective posts, the project will support the integration of the rescue/firefighting measures into the local development plan concurrently with development of the climate-sensitive local development plans (under activity 1.1), thus allowing local authorities to have a solid base for use of resources. An exit strategy to ensure allocation if such funds beyond the project lifetime will be prepared by the project team in close coordination with the GIES.

A regulation on the functioning of the rescue and firefighters' brigades will be elaborated by the project for each community post. It will be based on recommendations provided in the Standard Regulation approved by the Governmental Decision #595 from 26.06.2018. The project will support the community-based rescue and firefighting teams to map and classify all possible water sources within the intervention areas as per the Law on Fire and the Inter-Ministerial Order no. 25 (2004) providing instructions on inspection and recording of the water supply sources for firefighting needs. Close coordination between the GIES, the LPAs, the private sector and community will be ensured by the project team during identification and establishment of the water storage infrastructures (Output 1) to enable their potential use in firefighting measures. Especially for the reasons of complementarity and interlinkages, both project outputs will be implemented in the same districts. Nevertheless, while ensuring such an interlinkage, important aspects such as hierarchy of user right in relation to the established basins will be clarified and formalized between the beneficiaries at the inception phase. The newly established posts will not use foam because its usage is the prerogative and responsibility of the professional firefighters existing at the rayon level and not of the community-based teams. In addition, the intervention vehicles to be purchased for the community-based firefighting teams will not provide for the use of foam as well.

Under this activity the project will also support the national campaign on fire prevention and preparedness currently implemented under the leadership of the Ministry of Internal Affairs in poor rural households of Moldova, as well as for elderly people and with reduced mobility, the latter being identified as the mostly exposed to fires and other natural and man-made disasters. For that purpose, the project is expected to reach 990 such households in the 5 pilot districts of Moldova. The fire prevention and preparedness campaign is aimed at targeting the population during the high risk periods, for example summer time (target group: children, youth, objective: to reduce number of deaths from drowning), hot periods (target groups: local population, objective: to change the behavioural patterns during the heatwaves and prevent vegetation fires), winter time (target: rural population, objective: to reduce number of fires and death cases caused by irregular use of heaters). Such engagement tools as face-to-face meetings, dissemination of the printed materials, visits to households will be undertaken by the Capacity Development and PR company to be hired by UNDP for this project. Additional events, as part of the campaign will be identified during preparation of the Communication and Engagement Plan at the inception phase of the project. The timing of the campaign deployed by the project will be synchronized with the national one to be deployed by the GIES. As a result of these interventions, a total number of 2,930 marginalized poor people (women and men) will benefit from increased protection and immediate focus in case of disasters. This activity foresees that the fire detectors will be installed in the most vulnerable households to ensure timely intervention and prevent fire to spread in the households. Such activities have been conducted by the GIES during the last years and statistics shows that

²⁰ <http://lex.justice.md/viewdoc.php?action=view&view=doc&id=311636&lang=1>

there are less damages and deaths from fires in areas where fire detectors have been installed. The project is not focusing on installing fire alarms in the public buildings, as officials from the public institutions receive proper fire response trainings and there are regulations in place creating an enabling environment for proper equipping of public institutions to prevent fires. In these circumstances the public institutions are not among the vulnerable groups. By data available at the GIES, fire vulnerability is expressed mostly at the household level, and especially in the low-income households and where there are old people and/or limited mobility.

Activity 2.2 *Conduct capacity development for climate and disaster response local teams and raise awareness towards building a culture of safer living*

The National Programme on Consolidation of the Firefighting Services in Rural Communities provides for the following actions to be undertaken by the GIES and the fire/rescue units: Training of the personnel involved in the rescue actions, disaster response, recovery planning and operation; firefighting, education and communication with the citizens of the Republic of Moldova on the risks and actions to be undertaken in case of fires and other exceptional situations/disasters. Community-based fire brigades once in place, will become part of the national scheme of fire protection. These will be the first responders in case of a fire event in the area under their responsibility, but which can be backed up by the district firefighting units, shall the need be.

In order to ensure that the performance of the climate and disaster response local teams in the target communities is exercised at its full capacity and that the local population has an enhanced understanding of the response patterns in case of disasters, this activity will include the following sub-activities:

- *2.2.i. Strengthening the professional capacities of the community-level rescue/firefighting staff from the selected communities:* Each rescue and firefighting unit is to be composed of 10 permanent staff which need to undergo extensive trainings. Currently, such trainings are carried out by three training centers of the General Inspectorate for Emergency Situations which rely on the training curricula for several target groups. However, a training curriculum for such community-based teams is still missing. In this context, the project will support the main project's beneficiary to develop such a targeted curriculum that would include minimum training standards. The activity will be run in close cooperation with other relevant initiatives such as the Red Cross Austria Project 'Provice' implemented in partnership with EcoContact Association, PPRD Project and other ongoing projects. The Red Cross Austria Project is aimed at development of civil protection volunteering in the countries of Moldova, Belarus, and Ukraine. To enable synergies and avoid overlapping, the project team will coordinate with the Red Cross Austria the possibility to organize joined events for volunteers. The respective cooperation will be detailed in the inception phase and formalized through an MoU. Synergies with the PPRD project on volunteering movement will also be sought at the inception phase. Furthermore, the project team will advocate for amendments to the Law on Volunteering no.121 of 18 June 2010 to include provisions on medical insurance for volunteers operating in the rescue and firefighting system.

The project will also organize in-country visits for LPAs and rescues and firefighting teams from selected communities to operational rescue and firefighting posts for the purpose of exchange of experience.

- *2.2.ii. Conduct awareness raising campaign:* Awareness of disaster and climate risks as well as prevention, preparedness and response measures is the key element for strengthening resilience. A Communication and Awareness Strategy will be developed by the project that will address the main climate and disaster risks identified in the selected communities as a follow up of the climate and disaster-sensitive local development planning (Activity 1.1.). The strategy will be consulted with project beneficiaries, partners and donors as much as possible. The strategy will formulate main messages to the local population, tactics for successful communication, a set-up of informational materials and dissemination methods. The awareness raising campaign will provide additional information to the local population on the main threats, vulnerabilities, ways to behave and react in case of disasters and how to benefit effectively from the newly established rescue/firefighting brigades. The campaign will be carried out in selected communities and nation-wide. The needs of the people with disabilities, visual and hearing impairments, certain targets groups such as children, minorities etc. will be taken into consideration during the campaign and the preparation of the awareness materials. As a first step, the target groups will be defined and relevant topics for discussions will be identified for the meetings with such groups, as well as their format. Based on the topics identified, printed awareness raising materials will be prepared, which shall include inter alia information on how to react in case of certain disasters, who are the contact points, etc. The details of the campaign will be defined at the inception phase.

Expected Results

The project intends to contribute in the long term to the shift from traditional disaster risk management to an integrated multi hazard risk management approach. Enhancing resilience of livelihoods in 5 districts of Moldova, Central (Hincesti, Criuleni and Ungheni districts) and Southern (Leova and Cantemir) and their capacities to respond successfully to climate and disaster risks such as droughts, fires and floods, provides

communities development benefits in the short term, as well as contributing to vulnerability reduction in the long term. In this sense, the project will demonstrate sustainable climate change adaptation and disaster risk reduction solutions for agriculture, flood management and fire prevention.

The selected districts have been screened through the livelihood vulnerability index identified in the 3rd National Communication to UNFCCC²¹ and through the physical suitability criteria such as: location -junction of two streams, floodplain location (i.e., slope of less than 5%) and community/village land use pattern (i.e., distance of 50 m and less from agricultural land); hydrology- surface water runoff and depth of water table; soil -soil loss tolerance (i.e., resistance to erosion). The respective criteria had been applied during the development of the *Feasibility Study "Improving resilience of rural communities to climate change by augmenting water management with small scale water reservoirs"*²² and informed design of this project. The project will be targeting small-scale farmers which due to changes in temperature and precipitation in the context of climate change, experience yield losses and are looking for adaptive solutions. Due to high incidence of fires, these districts are also on the priority list of the GIES in terms of establishment of the community-based firefighting/rescue brigades in line with the Government Decision # 202 from 14.03.2013 providing for expansion of voluntary fire and rescue team in rural areas of Moldova. The concept of development of the community-based firefighters and rescue teams represent a combination of the voluntary and paid services within the same units. This is seen by GIES and LPA as a step towards the promotion of volunteering and finding the legal basis for civil protection volunteering. Currently there are certain limitations such as follows:

- No clear procedures for ensuring medical insurance for volunteers. In case if the person is not officially employed at other jobs, and this happens often with agricultural workers, it is not possible to provide him/her insurance. That is a limiting factor for security at the work place and intervention.
- Low level of volunteering culture, people do not want to go into volunteering as have to ensure the family income. It is not "socially attractive". This project is a seen as a step to promote the image of rural firefighter and create the interest on the community level.
- Lack of responsibility over the assets that are managed by volunteers. There are negative experiences in the country when people as volunteers damaged the intervention equipment, have not used them accordingly, so LPA do want that there will be a responsibility over the assets that are managed, and this can be done only by paid staff members.

The "mixed approach" that can be implemented in communities foresees that there will be staff (especially those responsible for maintaining assets and volunteers working in shifts (can be also in different communities located) for interventions.

Local volunteers will be recruited based on the open call, women will be encouraged to apply. Once the rescue and firefighting brigade is open, it will be recorded as part of the National Fire and Rescue System. It means that support, trainings, regular support visits will be done by GIES. GIES and the project will support the newly established teams with intervention vehicles and protective equipment. In case if an emergency call (112) will be coming from the intervention area both rural team and professional teams (from the district level) will be called for response. As such, all the local teams will be a part of the national wide system.

According to the same Government Decision, establishment of the community-based firefighting/rescue brigades should take place by 2020, and these localities also respond to the selection criteria such as the current extensive response time in case of fires/disasters, large number of vulnerable population and coverage of communities. Selection of the respective localities has taken place in coordination with the General

²¹<https://unfccc.int/resource/docs/natc/mdanc3.pdf>

²²The recommendations outlined in the Feasibility Study are aimed at increasing the resilience and adaptive capacity of smallholder farmers to climate variability and extreme events. Moldova has made considerable progress in developing a strong institutional base for effective climate change adaptation in recent years. The *Strategy for Adaptation to Climate Change by 2020* is a key policy milestone. The Government has also been clear regarding the importance of both mitigation and adaptation action and is committed implementing plans both to reduce emissions and protect development through adaptation. Moldova's policy framework is being supported by clear action to implement adaptation, but the efforts remain small-scale and often fragmented. They are also under-funded, and funding constraints are reducing the effectiveness of technical solutions to promote adaptation. Successful pilots exist, but these are not being scaled up and opportunities for complementarity to deepen impact have not yet been fully explored. In terms of pressing adaptation needs, availability of agricultural water to ensure food security and sustain rural livelihoods and incomes is a clear priority both in policy and human terms. Efforts to manage water resources and support increased irrigation-based agriculture must be core to any adaptation effort. It is also clear that the full potential of actions such as SSWR has co-benefits in both in term of disaster risk reduction and IRWM that should be fully explored. These should be embedded in wider development issues that show how integrated action generates community benefits not only in maintaining traditional livelihoods but also in protecting assets and development gains.

Inspectorate for Emergency Situations who confirmed full support and commitment in establishment and capacity development of newly established fire/rescue teams in these priority districts. The public hearings conducted during August-September 2018 in the respective localities have proven again the LPAs' and community members' interest and commitment for project interventions and the urgent need for water storage reservoirs for agricultural needs and establishment of the fire brigades and rescue teams. Please see the Annexes10a and 10b.

The benefits of the project will materialize by increased water availability for resilient livelihoods, reduced disasters and fire risks for 55 villages (approximately 58 714 people), where 990 households are identified as vulnerable from the economic and social point of view. The project foresees 5 target groups:

1st Group – up to 50 officials, representing the local public authorities from 5 mayoralties, including women benefiting from dedicated trainings on the use of tools and approaches to advance climate and disaster planning, budgeting and implementation;

2nd Group – up to 50 farmers from 5 districts, including women benefiting from capacity development on adaptation solutions in the agriculture and water sectors and sustainable use of natural resources with the support of the existing extension services that includes up to 15 farmers, including women benefiting from water storage infrastructures for agricultural needs;

3rd Group – 50 rescue and firefighting staff (men and women) benefiting from new jobs created and strengthened professional capacities in firefighting, rescue actions, disaster response, recovery planning and operation

4th Group – up to 2,930 vulnerable (women and men) benefiting from increased protection and immediate focus in case of disasters;

5th Group – up to 4270 local residents (of which 50% women and including vulnerable people) from 5 target communities (30% from total community population) benefiting from awareness raising campaign on the main threats, vulnerabilities, ways to behave and react in case of disasters.

Table 2. Direct and indirect project beneficiaries

Outputs	Beneficiaries	
	Direct Beneficiaries	Indirect Beneficiaries
<p>Output 1 - Adaptation interventions in the water sector for agricultural purposes and flood management demonstrated and local climate change related policy frameworks in place in a selected number of districts</p>	<ul style="list-style-type: none"> • 50 officials representing LPAs, heads of public institutions and private sector including women • 50 farmers, including women (15 of which benefiting from water storage infrastructures) 	<ul style="list-style-type: none"> • 4 474 people, including 2 185 women and 222 vulnerable persons from Pirlita • 775 people, including 378 women and 87 vulnerable persons from Sarateni • 2 603 people, including 1 300 women and 87 vulnerable persons from Baimaclia • 1 607 people, including 776 women and 185 vulnerable persons from Drasliceni • 4 790 people, including 2 371 women and 105 vulnerable persons from Sarata Galbena
<p>Output 2 - Community-level climate and disaster management capacities improved for disaster risk reduction, prevention and timely response</p>	<ul style="list-style-type: none"> • 50 rescue and firefighting staff (men and women) • 2 930 vulnerable people (women and men) • 4 270 local residents including 50% women and vulnerable persons 	<ul style="list-style-type: none"> • 58 714 people, including 29 400 women and 2930 vulnerable persons from Hincesti, Criuneni, Ungheni, Leova and Cantemir districts

Resources Required to Achieve the Expected Results

See Section IV. Project Management and Table no. 4

Partnerships

For implementation of project activities, where appropriate, UNDP will take advantage of effective partnerships with other development partners and UN agencies. UNDP's actions and future role in this project will be based on existing comparative strength, such as strong local presence in Moldova, well-established partnership with both local and national Government and civil society and access global expertise. In addition, UNDP Moldova is the leading agency in the area of climate change and disaster risk reduction, providing policy planning assistance and guidance, individual and institutional capacity development, and demonstration on the ground of innovative climate and disaster risk reduction solutions in line with the national and global resilient development objectives, including SDGs.

Risks and Assumptions

Table 3. Project risks and mitigation measures

Description of the risk	Likelihood	Possible impact	Prevention/ and or mitigation measures	Where the risk might occur in the intervention logic
Delays in project implementation due to local level elections in 2019	Low	Change of mayors in villages concerned	The project will plan its activities in a way that no decision-making process is to be taken during the elections period.	Output 2
Lack of culture of local communities participation	Low	Level of awareness regarding climate and disaster risk reduction will increase poorly	The project will use best practices and lessons learned to show tangible benefits from other similar contexts, and will be working on changing the attitudes and behaviour as well as will empower communities, CBOs and citizens to fully participate in the adaptation process to climate change	Output 1&2

Co-financing failure from Local Public Authorities and private sector in the selected communities	Moderate	Deficit of co-financing	The project will request from Local Public Authorities to use a budget line for contingency and will use contribution from private sector at the initial stage of activities implementation. Memorandum of Understanding (MoUs) to be signed with the beneficiary communities at the inception phase. If not MoUs are signed, then other beneficiary communities to be selected.	Output 1&2
Failure to secure funding for the 50-firefighting staff	Moderate	Budget constraint	The project team will liaise closely with the local authorities from the selected communities and the GIES to secure funding for firefighting staff from local and national budget.	Output 2
Weak capacity of implementing partners	Moderate	Weaker project impact	The UNDP will address these risks by providing ongoing capacity development to LPAs and private sector partners.	Output 1&2
Possible overlapping with ongoing projects	Low	Duplicated works	The project will identify cooperation activities with the ongoing programmes and projects and will develop joint activities in order to maximize the impact of the interventions ²³ .	Output 1&2
Environmental pollution from some construction works	Low	Pollution of surface run-off.	The project will apply environmental expertise or EIA according to national legislation. Environmental safeguarding will be included in the ToRs for engineering design and civil works.	Output 1&2

Stakeholder Engagement

Effective stakeholders' engagement is one of the key success factors for the project's implementation and UNDP will capitalize on the wide experience and methodologies that exist in the organization to ensure "no one is left behind". The project envisages strong coordination among different stakeholders to achieve the expected results.

General Inspectorate for Emergency Situations is one of the key beneficiary institutions of the project, subordinated to the Ministry of Internal Affairs with the overall responsibility for disaster prevention, preparedness, response and relief. GIES will oversee all aspects of project implementation and will be working in close cooperation with the LPAs to support the process of establishment of rescue and firefighting brigades as well as capacity development activities through its training centers for local rescue and firefighting teams. GIES will also facilitate functioning of the project management team (PMT), more specifically in terms of liaising with government authorities from different sectors. GIES will ensure coordination with other relevant

²³ During the design phase all the parallel and relevant initiatives have been mapped and consulted to avoid overlapping and to identify complementarities. The project team will keep track of any emerging parallel initiatives after the project starts.

projects and initiatives and will be active in monitoring of the PMT activities. Also, GIES will exercise its coordination role in line with the National Programme for strengthening the firefighters and rescue service, including of the volunteer fire service in rural areas of Moldova. Disaster prevention, response, relief and recovery are key functions within the mandate of the General Inspectorate for Emergency Situations (GIES). The central departments of GIES are organized into: operations, civil protection, fire and rescue services. GIES has about 2,500 staff including about 640 assigned to the civil protection. These are deployed in 63 GIES sub-units in all rayons (districts) and individual municipalities (Cahul, Chisinau and Balti). The GIES has also 3 specialized units (for search and rescue) in the North, Center, and South. GIES has a network of training centers, functioning in Chisinau, Cahul and Balti.

From 2004, according to the Governmental decision nr. 1340 Commission for Emergency Situations is the main entity to manage major emergencies. The Republican Commission for Emergency Situations is headed by the Prime Minister; the Deputy Head is the Director of the General Inspectorate of Emergency Situations (GIES). The Commission meets semi-annually and includes representatives of all line ministries and executive branches. District and local emergency commissions have a similar structure and include heads of local governments and relevant public services. In case of emergency depending of the level of impact the respective Commission (national, district, local level) is conveyed, members are notified immediately and meet to evaluate the level of threat to the population, the economy, and infrastructure, and identify measures needed and sources for response.

National / Rayonal Firefighting Units are certified rescue and firefighting teams in place in every district of Moldova subordinating to the GIES. The rescue and firefighting system of Moldova provides for a close cooperation and coordination between the professional and community-based teams who together participate in rescue and firefighting events depending on the scale of such events. Furthermore, the community-based teams once established become part of the national network with access to the relevant trainings, expertise and experience sharing.

Ministry of Agriculture, Regional Development and Environment (MARDE) is responsible for the development of the regulatory framework for environmental protection, including water resources, water supply, sanitation and sewerage systems. It is also the key governmental agency in Moldova responsible for climate change policies and programmes, sustainable agricultural production and rural development. The Ministry will play a key coordinating role in implementation of the proposed project and will make sure that it is closely aligned with national climate change policies and ongoing and future initiatives pertaining to agriculture, water security and community development.

Apele Moldovei Agency/Water Authority, a sub-division of MARDE has the following attributions among others: (i) the technical exploitation of accumulation lakes for common use, according to the hydrographic basin principle, as well as protection dikes; (ii) organizes the operation and repair of drainage and irrigation systems; (iii) develops regulations and contributes, through concrete actions, to the maintenance in a technically appropriate manner of the accumulation basins, the antiviral constructions, the water distribution networks, the irrigation and drainage systems; (iv) organizes the financing of the works related to the construction, maintenance and reconstruction of the water management, hydro-ameliorative, and water supply objects. As such the Agency, as a project beneficiary, will play the key role to put in place climate-smart water structures, such as water storage basins.

Regional Development Agencies (RDAs), sub-divisions of MoARDE established in each of the 3 Development Regions of the country, are responsible for analyzing and promoting the socio-economic development in the region and to develop, coordinate, monitor and evaluate the implementation of regional development strategies, plans, programmes and projects. As such the RDAs will serve as important stakeholder overseeing project implementation in the in the target communities and in upscaling pilot activities at the regional level.

Agency "Moldsilva" a sub-division of MARDE has the general task to implement the constitutional prerogatives and international ratified obligations of the Republic of Moldova on development, promotion and implementation of its policy in forestry and hunting, directed on the international trends of socio-economic sustainable development, rural development, rural employment, sustainable forestry, development, guarding, forests and wildlife protection, maintenance and conservation of biodiversity, professional training, access to environmental benefits and forestry research and education. Moldsilva will be an important stakeholder for wildfire protection activities.

Local Public Authorities (LPAs) from Cantemir, Criuleni, Hincesti, Ungheni and Leova districts have a significant role to play in the project. LPAs will be responsible for: (i) mainstreaming of climate change adaptation solutions into local development policies, (ii) establishment and functioning of the community-based rescue and firefighting units, (iii) monitoring and supervising contract execution and commissioning of completed works.

The **private sector** is regarded as one of the key partners of the project by participating in identification, formulation, planning and implementation of adaptation solutions in the water sector. The private sector/agri-producers will be expected to partner in terms of putting in place water storage basins through provision of co-financing and land, but also in terms of participation in identification of climate related issues on which will build the climate-sensitive local development plans. Representatives of the private sector will be supporting also establishment of the rescue and firefighting brigades, as some of them already expressed their interest during the local consultation process. During such consultations the private sector highlighted that these could contribute with financial support for retrofitting of the premises allocated for the brigades and to cover some maintenance expenses. The exact amount could not be quantified however, and this expressed commitment will be followed-up with the private sector during the community mobilization efforts.

Structure Projects Network, an independent non-profit organization from Austria with main focus on supporting community development through establishment of volunteer movement (firefighters) in rural areas. Structure Projects Network strengthen rural capacities to respond to disaster risks through offering firefighting equipment and awareness raising activities. The project will cooperate and exchange the experience on establishing rescue and firefighting brigades.

Environment and Gender NGOs (including NGOs led by women). All NGOs will participate in stakeholder consultation and training as relevant and will assist in the promotion and awareness raising of project activities.

- **BIOS** is a leader in the field of environmental protection, sustainable agriculture and community development in Moldova and will be involved in implementation of climate adaptation solutions for resilient livelihood, among other activities.
- **EcoContact** has large experience in human rights and environment legislation as well as practical knowledge and skills on environmental issues such as: water management, waste management, risk assessment, climate change, vulnerability, chemical management, environmental impact assessment, etc. EcoContact will be involved in capacity development programme among other activities.
- **EcoVisio** run educational and empowerment programs for individuals, create and advocate for viable examples of ecological and social innovations and boost cooperation between change makers through networks' development. EcoVisio has working experience in education for sustainable development, peace and transformative leadership, social entrepreneurship and green economy, rural development, organic agriculture, etc. and will be involved in capacity development programme among other activities.
- **Congress of Local Authorities in Moldova (CALM)** represents the biggest local public association of local communities in Moldova and one of its main objectives is to contribute to promoting successful models and practices in local and regional development, inter-municipal cooperation, provision of public services and good local governance. It serves as a centre of information, assistance, training, expertise and experience exchange and will as such be an important partner for outreach activities.
- **National Agency for Rural Development (ACSA)**'s mission is sustainable development of rural communities through setting-up and developing a professional network of information, consultancy and training service providers for agricultural producers and rural entrepreneurs.

Farmers Associations in particular, National Farmers Federation Moldova (NFFM) and Republican Union of Agricultural Producers' Associations (APA) will be engaged in consultations over project implementation. NFFM consists of 11 regional organizations and more than 700 local farmer associations which cover more than 27,000 farmer enterprises. The federation contributes to enhancing the legal framework related to rural economic development. It develops and implements specific programs related to ecological agriculture, rural tourism, and social and cultural development and facilitates farmer associations in different domains. APA represents the interests of the 14 regional agricultural 'producers' associations. APA includes approximately 1,200 economic agents farming 600,000 hectares. With such a representation, APA is seen as a feasible network for dissemination of project results and climate solutions.

UNWomen closely cooperates with the government, civil society, and private sector to advance social, economic and political rights and opportunities for women and girls, placing special focus on those from marginalized groups. UN Women also works closely with policy makers to adopt state programmes that empower women in technology and entrepreneurship.

Media institutions and NGOs also have an important role in public informing and awareness raising about environmental issues, which they promote through the media products, radio, TV programs, seminars, topical trainings, public debates, flash mobs and environmental campaigns. They will be engaged in specific public awareness activities.

Additional mapping of NGOs for persons with disabilities and disables people's organizations (DPOs) will be conducted during the inception phase.

The professional firefighting units from the 5 districts will be steering the activity of the community-based rescue and fighting teams when these are established. In addition, the newly established teams will benefit from the trainings and capacity development events planned by the district units and the GIES. Furthermore, the GIES has signed a Cooperation Agreement²⁴ with the Federal Government of Austria on mutual assistance in case of natural disasters or technological disasters and cooperation for their prevention. In the framework of this agreement, the GIES is benefiting from the (a) exchange of scientific-technical information and by realization of (b) experts' meetings, (c) examination and training programs, (d) specialized courses and exercise of interventions on the territory of both Parties. The project will also explore to bring on an experienced association for implementation of the Output 2.

Knowledge

Results from the project will be disseminated within and beyond the project intervention zone through existing information sharing networks and forums. The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to project implementation through lessons learned. The project will identify, analyze, and share lessons learned that might be beneficial in the design and implementation of similar future projects. Finally, there will be a two-way flow of information between this project and other projects of a similar focus.

IV. PROJECT MANAGEMENT

The Project Management Unit (PMU) will be established and will comprise a Project Manager and a Finance Associate. The PMU will be headed by the Project Manager (PM) who will be recruited on a competitive basis. The PM will run the project on a day-to-day basis on behalf of UNDP and GIES within the constraints laid down by the Board. The PM's prime responsibility is to ensure that the project produces the results specified in the project document, to the required standard of quality and within the specified constraints of time and cost. Development and consolidation of work plans, preparation of quarterly/annual progress reports, supervision the work of the project thematic experts, etc. are major responsibility of the PM.

Activities to be carried out by external experts are presented in table below.

Table 4. Activities to be carried out by external experts

Activity	Experts/Companies Implicated
Activity 1.1. Mainstream climate change adaptation and disaster risk management priorities into local development planning frameworks in a participatory and gender-sensitive manner	National company for mainstreaming climate change, disaster risk reduction and water priorities into local development policies and to conduct the relevant trainings
Activity 1.2. Pilot water storage infrastructures in 5 districts of the country to enhance adaptation to climate change in the water sector	National Consultant - Feasibility Study on identification of suitable places for WSB
<i>Sub-activity 1.2.i. Identification of at least 15 agri-producers</i>	National Consultant - Capacity development for agri-producers Civil Engineer part-time
<i>Sub-activity 1.2.ii. Identification of water storage sites</i>	National Consultant - Environmental Impact Assessment
<i>Sub-activity 1.2.iii. Conduct capacity development activities for agri-producers</i>	National Consultant - Climate Change
<i>Sub-activity 1.2.iv. Construction of water storage basins</i>	National Consultant - Soil and Land/Irrigation National consultant – Water Specialist (Hydrologist)
Activity 2.1 Establish Community-based rescue and firefighting brigades in the most vulnerable and risk exposed districts of the country	National consultant - Community Mobilization Specialist Civil Engineer part-time

²⁴<http://lex.justice.md/viewdoc.php?action=view&view=doc&id=346253&lang=1>

	International consultant – Adviser for implementation of 2d Output
<p>Activity 2.2 Conduct capacity development for climate and disaster response local teams and raise awareness towards building a culture of safer living</p> <p><i>Sub-activity 2.2.i. Strengthening the professional capacities of the community-level rescue/firefighting staff from the selected communities</i></p> <p><i>Sub-activity 2.2.ii. Conduct awareness raising campaign</i></p>	<p>National Consultant – Capacity Development (curricula development and trainings)</p> <p>National Company - Awareness raising and PR</p>

V. RESULTS FRAMEWORK²⁵

See Annex No. 1) Logframe Matrix

VI. MONITORING AND EVALUATION

In accordance with UNDP's programming policies and procedures, the project will be monitored through the following monitoring and evaluation plans:

Monitoring Plan

Monitoring Activity	Purpose	Frequency	Expected Action	Partners (if joint)	Cost (if any)
Track results progress	Progress data against the results indicators in the RRF will be collected and analysed to assess the progress of the project in achieving the agreed outputs.	Quarterly, or in the frequency required for each indicator.	Slower than expected progress will be addressed by project management.		
Monitor and Manage Risk	Identify specific risks that may threaten achievement of intended results. Identify and monitor risk management actions using a risk log. This includes monitoring measures and plans that may have been required as per UNDP's Social and Environmental Standards and the Gender Analysis. The project audit will be conducted in compliance with the UN internal policy on audit and as per the Third-party Cost-sharing Agreement between the Austrian Development Agency (ADA, the donor) and the United Nations Development Programme (UNDP) and submitted to ADA.	Quarterly	Risks are identified by project management and actions are taken to manage risk. The risk log is actively maintained to keep track of identified risks and actions taken.		
Learn	Knowledge, good practices and lessons will be captured regularly, as well as actively sourced from other projects and partners and integrated back into the project.	Annually	Relevant lessons are captured by the project team and used to inform management decisions.		
Annual Project Quality Assurance	The quality of the project will be assessed against UNDP's quality standards to identify project strengths and weaknesses and to inform management decision making to improve the project.	Annually	Areas of strength and weakness will be reviewed by project management and used to inform decisions to improve project performance.		

²⁵ UNDP publishes its project information (indicators, baselines, targets and results) to meet the International Aid Transparency Initiative (IATI) standards. Make sure that indicators are S.M.A.R.T. (Specific, Measurable, Attainable, Relevant and Time-bound), provide accurate baselines and targets underpinned by reliable evidence and data, and avoid acronyms so that external audience clearly understand the results of the project.

<p>Review and Make Course Corrections</p>	<p>Internal review of data and evidence from all monitoring actions to inform decision making.</p>	<p>Annually</p>	<p>Performance data, risks, lessons and quality will be discussed by the project board and used to make course corrections.</p>	
<p>Semi-annual progress reports and final report</p>	<p>A progress report will be presented to the Project Board and key stakeholders, consisting of progress data showing the results achieved against pre-defined targets at the output level, the annual project quality rating summary, an updated risk log with mitigation measures, and any evaluation or review reports prepared over the period.</p> <p>Progress reports shall include a description of project progress against the Project's intervention logic (outcome, outputs and indicators as per the Logframe in Annex 1), the activities carried out, as well as information about the total number of beneficiaries reached by the end of the respective reporting period per outcome.</p> <p>Furthermore, progress regarding the implementation of recommendations related to gender, environmental and social standards resulting from the donors' relevant appraisals shall be reported.</p> <p>The project final report shall include a description of the results achieved with reference to the project's impact, outcome(s) and expected outputs using the indicators included in the Results Framework and the impact of the activities carried out.</p> <p>UNDP shall refer to and enclose to the reports all deliverables and publications produced with funds of the Project.</p>	<p>Semi-annually, and at the end of the project (final report)</p>		
<p>Project Review (Project Board)</p>	<p>The project's governance mechanism (i.e., project board) will hold regular project reviews to assess the performance of the project and review the Multi-Year Work Plan to ensure realistic budgeting over the life of the project. In the project's final year, the Project Board shall hold an end-of-project review to capture lessons learned and discuss opportunities for scaling up and to socialize project results and lessons learned with relevant audiences.</p>	<p>Annually</p>	<p>Any quality concerns or slower than expected progress should be discussed by the project board and management actions agreed to address the issues identified.</p>	

Assessment and Evaluations

An Environmental Impact Assessment / Risk Management & Sustainability Plan (EIARMSP) will be conducted during the first six months of project implementation. UNDP will disclose a notice on its website regarding the EIARMSP to be undertaken.

The ToR for the EIARMSP will be shared with ADA for comments prior to commissioning the assessment.

Aspects covered by the assessment will include, amongst others, hydrology, topography, soil and land condition, as well as climate risk assessment, and the engineering insights. The assessment will result in a risk management and sustainability plan. The documentation from the assessment including the risk management and sustainability plan will be submitted to ADA together with the first progress report from the project. As part of the additionally required Social and Environmental Impact Assessment, the gender and social aspects of the baseline analysis will be covered.

The final evaluation that will be performed at the end of the project phase will have the main purpose to ensure accountability as well as the learning aspect: collecting the best practices, lessons learned that can be further integrated into UNDP Moldova Environmental portfolio. The final evaluation will address the hypothesis formulated on the project development phase in the theory of change, will be participatory (include different project actors: implementers, beneficiaries, main stakeholders) to ensure the triangulation of sources and theories for the substantial assessment. Evaluation will address the following criteria: relevance, effectiveness, efficiency, impact and sustainability of the project. Cross-cutting issues (such as gender, environment, social standards/aspects) will be also addressed in the Final evaluation. The final document will ensure the accountability (to donor and society in the whole), transparency (being published online) and knowledge management (drawing the lessons learned).

The Terms of Reference for the final evaluation will be submitted to ADA for review prior to the launching of the respective procurement procedure.

VII. MULTI-YEAR WORK PLAN

See Annex No. 2) Time schedule and Annex No. 3) Budget for details

Component	Total ADA contribution	Total contribution (communities/private)	Total
Output 1. Adaptation interventions in the water sector for agricultural purposes and flood management demonstrated and local climate change related policy frameworks in place in a selected number of districts	€ 488,851.20	€ 93,150.00	€ 582,001.20
Output 2. Community-level climate and disaster management capacities improved for disaster risk reduction, prevention and timely response	€ 264,380.40	€ 149,040.00	€ 413,420.40
Project Management	€ 239,361.02	€ -	€ 239,361.02
GMS	€ 79,407.41		€ 79,407.41
TOTAL	€ 1,072,000.03	€ 242,190.00	€ 1,314,190.03

VIII. GOVERNANCE AND MANAGEMENT ARRANGEMENTS

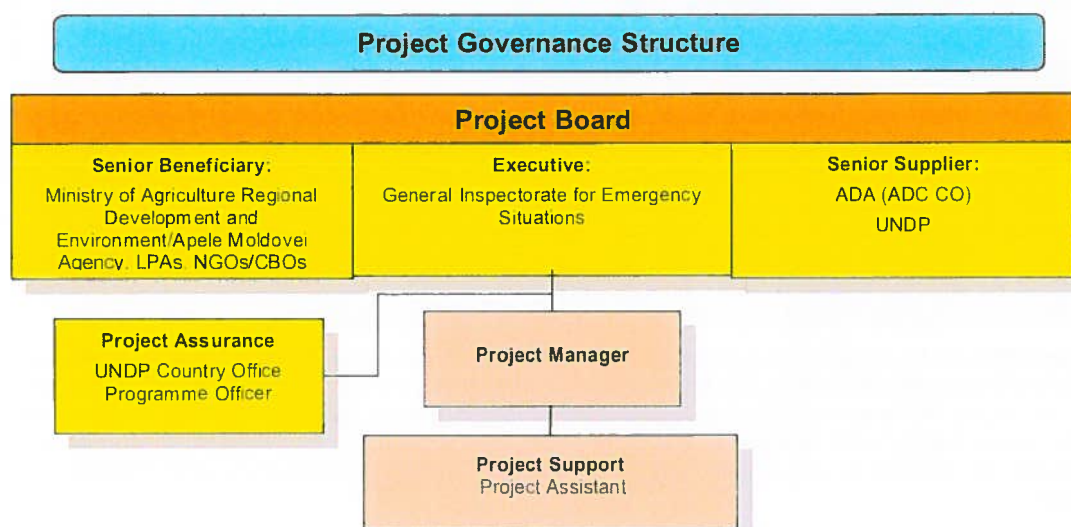


Figure 2. Project governance structure

The project will be carried out under a National Implementation Modality (NIM) in line with the Standard Basic Assistance Agreement (1992)²⁶. Following consultations on project implementation, UNDP and the Government agreed that the UNDP country office will provide support services to the project at the request of the National Implementing Partner. These support services may include assistance in recruitment of project personnel, identification of training activities and assistance in carrying them out, procurement of goods and services, financial monitoring and reporting, processing of direct payments, supervision of project implementation, monitoring and assistance in project assessment. For more details see Table no. 5. The Project will be implemented in line with UNDP rules and procedures (<http://content.undp.org/go/userguide/results>).

Where necessary and justified, support services of the UNDP Office in Moldova will be provided in administrative and financial matters as described below:

Table 5. Support services provided by UNDP

Support Services	Schedule for the Provision of the Support Services	Cost to UNDP of providing such Support Services	Amount and Method of Reimbursement of UNDP
Payments, disbursement and other financial transactions, including direct payments, budget revisions, etc.	As agreed in the Annual Workplan (AWP) from inception to closure of the project	Cost-recovery based on UNDP Universal Price List and Local Price List	Periodic billing based on actual staff costs and agreed percentage
Recruitment of staff, project personnel and consultants, including creation of vendors, selection and recruitment of SC holders, personnel management services and banking administration, etc.			
Procurement of services and goods, and disposal, including evaluation, proceeding through CAP, contracting, disposal of equipment and asset transfer, customs clearances, etc.			

²⁶ The NIM modality proposed for this project implies that the designated national partner assumes the coordinating and quality assurance role over the products delivered by the project given their technical knowledge and access to the required national and local level policy and budgetary planning processes. However, all fiduciary responsibilities stay with UNDP due to the still inadequate national financial and procurement capacities.

<i>Travel support, including travel arrangements and authorization, ticket, visa and booking requests, F10 settlement, etc.</i>			
<i>Organization of conferences, workshops and trainings</i>			
<i>Communication support, including maintenance of undp.org accounts</i>			

National Implementing Partner: As the national implementing partner (NIP), the General Inspectorate for Emergency Situations (GIES) will oversee all aspects of project implementation. GIES is accountable to the government and UNDP for ensuring (1) the substantive quality of the project; (2) the effective use of both national and UNDP resources allocated to it; (3) the availability and timeliness of national contributions to support project implementation; and (4) the proper coordination among all project stakeholders. The General Inspectorate for Emergency Situations will nominate a high-level official who will serve as the national coordinator for project implementation, who will not be paid from the project funds²⁷.

Project Board (PB) will be responsible for making consensus-based decisions, in particular when guidance is required by the Project Manager (PM). The Board will play a critical role in project monitoring and evaluations by assuring the quality of these processes and associated products, and by using evaluations for improving performance, accountability and learning. The Project Board will ensure that required resources are committed. It will also arbitrate on any conflicts within the project and negotiate solutions to any problems with external bodies.

Specific responsibilities of the PB should include:

- i. For the processes of justifying, defining and initiating a project:
 - Appraise and approve work plans submitted by the Project Manager;
 - Delegate Project Assurance roles as appropriate;
 - Commit project resources required by the work plan.
- ii. For the process of running a project:
 - Provide overall guidance and direction to the project, ensuring it remains within any specified constraints;
 - Review project quarterly and annual plans and approve any essential deviations from the original plans;
 - Review and approve progress and annual, as well as mid-term and final evaluation's project reports, make recommendations for follow-up actions;
 - Provide ad-hoc direction and advice for exception situations when project manager's tolerances are exceeded;
 - Assess and decide on conceptual project changes if necessary;
 - Assure that all planned deliverables are delivered satisfactorily and programme management directives are compiled;
- iii. For the process of closing a project:
 - Assure that all products/outputs are delivered satisfactorily;
 - Review and approve the end of project report;
 - Make recommendations for follow-up actions and post project review plan;
 - Notify project closure to the stakeholders.

Project Board decisions shall be made in accordance with international standards that shall ensure management for development results, best value for money, fairness, integrity, transparency, and effective international competition. Members of the Project Board will consist of key national government representatives, UNDP senior official, ADA and other stakeholders as identified during the Local Project Appraisal Committee meeting and at the inception phase. Potential members of the Project Board will be reviewed and recommended for approval during the Local Project Appraisal Committee (LPAC) meeting. The gender balanced participation will be ensured. The final composition of the Project Board will be decided at the outset of project operations and presented in the Inception Report/first six-monthly report. New members into the Board or participants into the Board meetings during the project implementation can be invited at the decision of the Board, by ensuring, however, that the Board will remain sufficiently lean to facilitate its effective operation. The Project Board will contain of three distinct roles:

²⁷ No project funds will be transferred to any of the national parties. UNDP will exercise the fiduciary role of procuring the required works, goods and services, and of recording and monitoring properly the expenses in its systems. Such an approach is in line with the UNDP NIM Modality, under which the Country Office provides support, as described in this section, to the project partner, to respond to the national financial and procurement capacity gaps.

Executive Role: Representing the project ownership. The General Inspectorate for Emergency Situations will appoint the representative in the Project Board, who will co-sign project annual working plans as well as quarterly and annual Combined Delivery Reports. The progress and final reports of the project, including the certified financial statements, will be submitted to ADA for approval.

Senior Beneficiary Role: This role requires representing the interests of those who will ultimately benefit from the project. The Senior Beneficiary's primary function within the Board will be to ensure the realization of project results from the perspective of different stakeholders and beneficiaries. Local Public Authorities will represent interest of beneficiaries in the Project Board.

Project Assurance: The Project Assurance role supports the Project Board Executive by carrying out objective and independent project oversight and monitoring functions which are mandatory on all projects.

The Project Assurance role supports the Project Board by carrying out objective and independent project oversight and monitoring functions. Project Assurance has to be independent of the Project Manager; therefore, the Project Board cannot delegate any of its assurance responsibilities to the Project Manager. The Project Assurance role will rest with the Environment, Energy and Climate Change Cluster of UNDP CO.

The following list includes the key suggested aspects that need to be checked by the Project Assurance throughout the project as part of ensuring that it remains consistent with, and continues to meet, a business need and that no change to the external environment effects the validity of the project:

- Ensure that funds are made available to the project;
- Ensure that risks and issues are properly managed and monitored, and that the logs are regularly updated;
- Ensure that Project Progress/Financial Reports are prepared and submitted on time, and according to standards in terms of format and content quality and submitted to the Project Board.

The Project Management Unit (PMU) will be established and will comprise a Project Manager and a Finance Associate. The PMU will be headed by the Project Manager (PM) who will be recruited on a competitive basis. The PM will run the project on a day-to-day basis on behalf of UNDP and GIES within the constraints laid down by the Board. The PM's prime responsibility is to ensure that the project produces the results specified in the project document, to the required standard of quality and within the specified constraints of time and cost. Development and consolidation of work plans, preparation of quarterly/annual progress reports, supervision the work of the project thematic experts, etc. are major responsibility of the PM.

The project audit will be conducted in compliance with the UN internal policy on audit and as per the Third-party Cost-sharing Agreement between the Austrian Development Agency (ADA, the donor) and the United Nations Development Programme (UNDP).

IX. LEGAL CONTEXT

This document together with the CPAP signed by the Government and UNDP which is incorporated herein by reference, constitute together a Project Document as referred to in the Basic Assistance Agreement (BAA). All references in the BAA to "Executing Agency" shall be deemed to refer to "Implementing Partner", as such term is defined and used in this document.

Consistent with the Article III of the Basic Assistance Agreement (BAA), the responsibility for the safety and security of the Implementing Partner and its personnel and property, and of UNDP's property in the Implementing Partner's custody, rests with the Implementing Partner. To this end, the Implementing Partner shall:

- a) put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried;
- b) assume all risks and liabilities related to the implementing partner's security, and the full implementation of the security plan.

UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of the Implementing Partner's obligations under this Project Document [and the Project Cooperation Agreement between UNDP and the Implementing Partner].

The Implementing Partner agrees to undertake all reasonable efforts to ensure that none of the UNDP funds received pursuant to the Project Document are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via http://www.un.org/sc/committees/1267/aq_sanctions_list.shtml. This provision must be included in all sub-contracts or sub-agreements entered into under/further to this Project Document".

Any designations on maps or other references employed in this project document do not imply the expression of any opinion whatsoever on the part of UNDP concerning the legal status of any country, territory, city or area or its authorities, or concerning the delimitation of its frontiers or boundaries.

X. ANNEXES

Annex No. 1) Logframe Matrix

Annex No. 2) Time schedule

Annex No. 3) Budget

Annex No. 4) List of reference documents

Annex No. 5) Environmental, gender and social standards checklist

Annex No. 6) Gender assessment

Annex No. 7) Social and environmental standards assessment

Annex No. 8) Theory of Change

Annex No. 9) Terms of Reference of the core project personnel

Annex No. 10a) Minutes of the meetings at the community level

Annex No. 10b) Minutes of the meetings with focus groups at district level

Annex No. 11) List of consulted people

Annex No. 12a) Scanned signed letters of interest

Annex No. 12b) Unofficial translation of signed letter of interest

XI. GLOSSARY OF TERMS

Climate smart agriculture - an integrated approach to managing landscapes—cropland, livestock, forests and fisheries - that address the interlinked challenges of food security and climate change. (World Bank, <https://www.worldbank.org/en/topic/climate-smart-agriculture>)

Vulnerable - are groups or individual with diminished capacity to anticipate, cope with, resist and recover from the impact of a natural or man-made hazard. Those include: 1st Group – Persons who are alone and/or sick that are tied to bed and cared by social assistant; 2nd Group – Poor families with many children and families without one or both parents; and, 3rd Group – Old persons with limited mobility. Source: The General Inspectorate for Emergency Situations. Note: The definition of the vulnerable groups here is referring to the scope of the project.

Resilience - the ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions", United Nations Office for Disaster Risk Reduction (UNISDR), "2009 UNISDR Terminology on Disaster Risk Reduction", Geneva, May 2009 (<http://www.unisdr.org/we/inform/terminology>)

Climate Proofing is a tool designed to support the integration of climate change impacts, as well as awareness on the challenges and opportunities. In the development planning at the local level, the projects referrers to climate smart water management to enhance adaptation to climate change and increase sustainably of the agricultural production.

Disaster- a serious disruption of the functioning of a community or a society at any scale due to hazardous events interacting with conditions of exposure, vulnerability and capacity, leading to one or more of the following: human, material, economic and environmental losses and impacts. United Nations Office for Disaster Risk Reduction (UNISDR), "2009 UNISDR Terminology on Disaster Risk Reduction", Geneva, May 2009

Hazard – a process, phenomenon or human activity that may cause loss of life, injury or other health impacts, property damage, social and economic disruption or environmental degradation. Hazards include (as mentioned in the Sendai Framework for Disaster Risk Reduction 2015-2030) biological, environmental, geological, hydrometeorological and technological processes and phenomena. For the purpose of this project, please refer to hydro-meteorological hazards, such as floods, drought, and wildland fires. In addition to these hydro-meteorological hazards, rescue and firefighting teams have mandate to prevent and respond to heatwaves and cold spells (hydro-meteorological hazards), as well as to the above-mentioned biological, environmental, geological, and technological processes and phenomena.

Disaster risk reduction- measures to prevent and reduce existing disaster risk and managing residual risk, all of which contribute to strengthening resilience and therefore to the achievement of sustainable development. United Nations Office for Disaster Risk Reduction (UNISDR), "2009 UNISDR Terminology on Disaster Risk Reduction", Geneva, May 2009

Response - actions taken directly before, during or immediately after a disaster in order to save lives, reduce health impacts, ensure public safety and meet the basic subsistence needs of the people affected. United Nations Office for Disaster Risk Reduction (UNISDR), "2009 UNISDR Terminology on Disaster Risk Reduction", Geneva, May 2009 (<http://www.unisdr.org/we/inform/terminology>)

Recovery- the restoring or improving of livelihoods and health, as well as economic, physical, social, cultural and environmental assets, systems and activities, of a disaster-affected community or society, aligning with the principles of sustainable development and "build back better", to avoid or reduce future disaster risk. United Nations Office for Disaster Risk Reduction (UNISDR), "2009 UNISDR Terminology on Disaster Risk Reduction", Geneva, May 2009

Disaster risk management is the application of disaster risk reduction policies and strategies to prevent new disaster risk, reduce existing disaster risk and manage residual risk, contributing to the strengthening of resilience and reduction of disaster losses. United Nations Office for Disaster Risk Reduction (UNISDR), "2009 UNISDR Terminology on Disaster Risk Reduction", Geneva, May 2009

Disaster risk- the potential loss of life, injury, or destroyed or damaged assets which could occur to a system, society or a community in a specific period of time, determined probabilistically as a function of hazard,

exposure, vulnerability and capacity. United Nations Office for Disaster Risk Reduction (UNISDR), "2009 UNISDR Terminology on Disaster Risk Reduction", Geneva, May 2009

