

## TERMS OF REFERENCE

<b>Job title:</b>	Agriculture and Irrigation Consultant to support the project “Promotion of climate change and disaster risk reduction solutions in the water and civil protection sectors for enhanced rural resilience”
<b>Duty station:</b>	Chisinau, Moldova
<b>Reference to the project:</b>	“Promotion of climate change and disaster risk reduction solutions in the water and civil protection sectors for enhanced rural resilience”
<b>Contract type:</b>	Individual Contract (IC)
<b>Expected duration of the assignment:</b>	September 2019 – September 2020, 85 days
<b>Starting date:</b>	September 2019

### I. Background

Considering its economic structure and geographic features, Moldova is highly vulnerable to climate change and is exposed to disasters due to 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 natural ecosystems, the agricultural system and human settlements.

Such high 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 economic sectors. This is primarily due to the shortage of water for agricultural needs and limited resources and capacities to plan and put in place water storage facilities for irrigation needs in rural communities of Moldova, especially, since climate projections show larger rainfall events in the future, which could supply such facilities.

Climate scenarios also indicate the country is strongly trending towards becoming more arid. Unfortunately, rural communities experience a capacity deficit in terms of fire prevention, preparedness and timely response, mainly due to the liquidation of over 400 equipped and capacitated firefighting units. 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, property 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 cook stoves and collection of firewood in ecosystems that might be at high risk of fires.

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, fire prevention and expansion of community-based rescue/firefighting teams in rural communities of Moldova with the purpose of reducing 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 impact in 5 districts of Moldova, in the Central (Hîncești, Criuleni and Ungheni districts) and Southern (Leova and Cantemir) regions.

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.**

**Projects outputs** are as follows:

**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.

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

Under the 1<sup>st</sup> 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 the private sector to vulnerable groups (out of which 50% will be women) into policy development and decision-making over priorities that affect their well-being; and *1.2. Piloting of water storage infrastructures in 5 districts of the country to enhance adaptation to climate change in the water and agricultural sectors* by providing grants to at least 15 farmers, including women, to put in place climate-smart water systems, such as, for instance, water storage basins.

Under the 2nd 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 considered an instrument for resilient community development that will cover a radius of up to 10-20 km and a 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 reaches 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 through increased water availability for resilient livelihoods, reduced exposure to disaster and fire risks for 55 villages (approximately 58,714 people, including 39 300 women), where 990 households (2930 people) are identified as socially and economically vulnerable.

For the purpose of this project and the definition of the General Inspectorate for Emergency Situations (GIES), 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 for by social assistants; 2nd Group – Poor families with many children and families without one or both parents; and, 3rd Group – Old persons with limited mobility.

## **II. Scope of work and expected outputs**

The Consultant will provide technical and advisory support to 15 selected water storage beneficiaries on overall production and irrigation matters. Ultimately, the Consultant will deliver training on modern, environmentally friendly irrigation techniques, agro-economic aspects of irrigation as part of high-value added crop production, and other production and technology-related information. The trainings will be based on a needs assessment to be conducted by the Consultant prior to conducting capacity building activities. The Consultant will work closely with the core project team as well as under the guidance and supervision of the Project Manager and the Environment Lead Specialist.

In order to achieve the stated objective, the Consultant will have the following responsibilities:

### ***Identification of best project beneficiaries***

- Participate in the selection of applicants within the Call of Expression of Interest.
- Undertake onsite visits, as part of the team or individually, to discuss with potential beneficiaries and assess their eligibility (against established criteria).

### ***Beneficiary analysis and targeted technical support to selected project beneficiaries***

- Identify the most suitable irrigation technology in line with project priorities and the local context for each beneficiary site.

- Provide technical rationale and recommend best options based on two main criteria – (i) highly efficient irrigation systems and (ii) low cost options for irrigation.
- Collect technical data on the agricultural land for each selected beneficiary site, existing farming systems and crop patterns, agricultural practices and the beneficiary’s organizational set-up.
- Identify the maximum area to be irrigated per each site taken the context
- Assess the site-specific characteristics (soil quality, inclination, sun exposure and other) to suggest best production and irrigation solutions for the selected sites (if needed, establish and use relevant indicators)

***Support in procurement processes***

- Advise on the design and technical specifications of irrigation scheme with options for energy supply, including renewable energy sources.
- Select and suggest technical specifications of equipment required and for its subsequent installation and use (including as in-kind contribution by the beneficiaries), including:
  - design and drawings of the most adequate option of irrigation systems including preparation of cost estimates,
  - details/configuration of technology for pumping water using renewable energy options, if applicable,
  - design and technical specifications of pump installations.
- Support project beneficiaries in identifying best suitable options to contribute to the project intervention through a matching investment (i.e. financial contribution, in-kind, their size and measures to evaluate the contribution’s real value, best timing for the contribution, etc.)

***Beneficiary needs assessment***

- Conduct a targeted needs assessment of project beneficiaries in lieu of their current agricultural technology and identify prospects for the application of efficient irrigation approaches. The needs assessment will identify knowledge gaps and will allow the consultant to elaborate training materials tailored to the specific needs of the project beneficiaries.

***Deliver tailored training to project beneficiaries***

- Provide specific technical assistance to project beneficiaries of water accumulation infrastructure through delivering tailored training including, but not limited to the following subjects:
  - Environmentally friendly approaches to water accumulation and subsequent use for irrigation.
  - Types of irrigation and afferent equipment.
  - Irrigation norms and best modern technological practices applied, with focus on High Value-Added Crops.
  - Best practices and modern approaches for water irrigation schemes.
  - General drought mitigation measures and measures based on water accumulation infrastructure.
  - Agro-economic cost-benefit aspects of correct irrigation technologies for HVA crops motivating a transition from conventional agricultural products.
- Conduct subsequent field visits to assess the implementation of the best practices applied and suggest measures to address gaps in applying efficient irrigation technologies
- Provide overall support to the PIU in terms of agri-business and production related technical aspect.

**III. Deliverables and Timeframe**

No.	Deliverables	Tentative timeframe/deadline
1.	Contribute to selection of beneficiaries who apply following the launch of Call of Expression of Interest.	September 2019
2.	Report on onsite analysis of most suitable crops, irrigation technologies and production approaches for the 15 selected beneficiaries.	October – November 2019

3.	Prepare comprehensive technical specifications for irrigation equipment and schemes (drawings, detailed configurations, energy sources, pumping installations specifications, etc.) for each of the 15 project beneficiary, based on modern environment-friendly practices.	November – February 2019
4.	Assessment of capacity building needs of 15 water basin beneficiaries (Needs Assessment Report).	November 2019
5.	Prepare training modules and organization of training activities for 15 beneficiaries selected within the project.	December 2019
6.	Deliver tailored training materials based on training needs assessment (Power Point Presentation, handouts, signed lists of participants, photos, etc.) and conduct capacity building events for 15 beneficiaries.	January – February 2020
7.	Monitor application of recommended technologies (including by field visits).	March-September 2020
8.	Organize at least 5 demonstration activities (one per raion) within the constructed water storage basins.	March-September 2020

All documentation related to the assignment will be prepared in Romanian. Before submission of the deliverables, the consultant will discuss the draft documents with the parties involved (e.g. UNDP and other stakeholders) so that final products reflect their comments. UNDP is not required to provide any physical facility for the work of the IC. However, depending to the availability of physical facilities (e.g. working space, printer, telephone lines, internet connection etc.) and at the discretion of the UNDP such facilities may be provided at the disposal of the IC.

This is a part-time consultancy. The timeframe for the work of consultant is planned for September 2019 – September 2020.

**Management Arrangements:** The consultant will work under the guidance of CC and DRR Project Manager.

**Financial arrangements:** Payments will be disbursed in several instalments, upon submission and approval of deliverables, and certification by UNDP Moldova Project Manager that the services have been satisfactorily performed.

#### IV. Qualifications and skills required:

##### I. Academic Qualifications:

- Higher education in agriculture and soil management, agricultural production technologies, hydro-amelioration, agricultural economy and other connected fields.

##### II. Experience and knowledge:

- At least 7 years of experience in delivering agri-business training, especially with focus on irrigation practices and high value-added crops.
- At least 5 years of experience related to water management and irrigation infrastructure, with focus on technical peculiarities, energy sources, pumping devices and equipment, etc. Experience with water and irrigation projects using matching grant approaches will be considered an advantage.
- At least 5 years of experience working with irrigation water users at local level (farmers, formal and informal farmer groups, associations, etc.)

##### III. Competencies:

- Excellent written communication skills, with analytic capacity and ability to synthesize project outputs and relevant findings for the preparation of analytical documents.
- Capacity to build strong relationships with beneficiaries, to focus on impact and result and to respond positively to feedback.

IV. Personal qualities:

- Proven commitment to the core values of the United Nations, in particular, for differences of culture, gender, religion, ethnicity, nationality, language, age, HIV status, disability, and sexual orientation, or other status.

The UNDP Moldova is committed to workforce diversity. Women, persons with disabilities, Roma and other ethnic or religious minorities, persons living with HIV, as well as refugees and other non-citizens legally entitled to work in the Republic of Moldova, are particularly encouraged to apply.

**V. Documents to be included when submitting the proposals:**

Interested individual consultants must submit the following documents/information to demonstrate their qualifications:

1. Proposal:
  - Providing a brief information on each of the above qualifications, item by item and a brief methodology on how they will approach and conduct the work.
2. Financial proposal (in USD), specifying a fee per day and total requested amount including all related costs, e.g. fees, per diems, travel costs, phone calls etc.
3. CV with at least 3 names for a reference check.
4. Offeror's letter to UNDP confirming interest and availability for the individual contractor (IC) assignment.