



TERMS OF REFERENCE

Job title: International Consultant for the feasibility study on climate change adaption interventions in the water resource management sector
Duty station: Home-based, plus at least 1 mission to Moldova
Project: Supporting Moldova's National Climate Change Adaptation Planning Process
Contract type: Project Manager, UNDP Moldova Programme Officer
Contract duration: July, 2017 - September, 2017 (up to 40 working days)
Starting date: End of July, 2017

1. Background

The Republic of Moldova's economy, population, and environment are highly vulnerable to climate variability and change. According to a range of studies, including the Republic of Moldova's Second National Communication (2nd NC) and Third National Communication (3th NC) under the United Nations Framework Convention on Climate Change (UNFCCC) and the National Human Development Report (2009/2010 NHDR), the impacts of climate change are expected to intensify as changes in temperature and precipitation affect economic activity.

Responding to the risks posed by climate change requires a coordinated and concerted effort on the part of the Government of Moldova. The three-year project "Supporting Moldova's National Climate Change Adaptation Planning Process supported by the Austrian Development Cooperation (ADC) with funding from the Federal Ministry of Agriculture, Forestry, Environment and Water Management of the Republic of Austria and implemented by UNDP Moldova in partnership with the Ministry of Environment and its Climate Change Office is responding to this need.

The overall goal of the project is to ensure that Moldova has a system and capacities in place for medium- to long term adaptation planning and budgeting with the overall aim to reduce vulnerability of the population and key sectors from climate change impacts. The main project objective is to support Moldova to put in place its National Adaptation Planning process contributing to and building upon existing development planning strategies and processes and to implement priority adaptation actions.

This assignment will contribute to the attainment of the Output 3, which aims to implement adaptation interventions in priority sectors by promoting local pilot projects and their replication and expansion regionally and nationally.

The project will employ an International Consultants who will provide consulting services for development of the feasibility study on surface water management climate change adaptation intervention. The proposed intervention aims at reducing water run-off and improve water availability through enhanced surface water management, enhance food security through livelihood diversification in agriculture, fisheries and crop

production, increase capacity of communities for better water operation, inform the policy makers through provision of inputs for water policy, groundwater regulation, as well as water budgeting and sharing.

The implementation of intervention will help build a long-term resilience of drought-prone areas of the country considering both current and future vulnerability to climate change. It will address social inclusion by integrating vulnerable communities of Moldova, including women, in climate resilient water resources management adaptation measures at the grassroots level. Use of renewables such as solar energy and others would also be considered as an adaption element in the water resources management and will be part of the feasibility analysis, as it will support the solar energy integration would help in wider replication, the opening of the private market for solar pumps and large scale adoption.

Tasks contained in this ToR are intended to serve as minimum requirements for the International Consultant to undertake the assignment. Additional tasks that add to a greater understanding of key issues may be addressed, as necessary.

2. The objective of the assignment

To undertake the feasibility study on surface water management adaptation intervention in the Republic of Moldova with the aim to enhance climate resilient development of vulnerable areas of the country and to ensure water and food security.

3. Expected outputs:

#	Outputs
1	Verification of the relevance of the proposed adaptation intervention in addressing the existing water vulnerability in economic, social and environmental terms, suggested in addition to the options studied in the pre-feasibility study by the national consultants developed and approved
2	Detailed assessment of technical (hydrologic), economic and financial, institutional and managerial, environmental and socio-cultural feasibility of the proposed intervention idea developed and approved
3	The detailed plan for the intervention activities, including indicators of objectives and results, design specifications, required resources, the institutional structure for implementation stipulating the responsibilities of potentially involved bodies, project timing/phasing, estimated costs and a logical framework planning matrix developed and approved
4	A detailed assessment of the potential risks and sustainability of the intervention results after completion, based on factors ensuring sustainability developed and approved

4. The scope of work

To meet the objective of the assignment, the following tasks will be undertaken by the International Consultant.

4.1 Carry out country context and sector analysis of the current situation in the field, providing the following information:

4.1.1 - relevant national and sectorial development context and challenges under the pending climate change risks, touching upon aspects of vulnerabilities and exposure to climate change;

4.1.2 - the political framework on water resources in Moldova (national policies, programs and implementation mechanisms), international water treaties signed by the country, intersectoral policies, especially with agriculture and energy;

4.1.3 - the relevance of intervention, driven by its consistency with the country's macroeconomic environment, as well as sectors requiring the implementation of additional water adaptation activities/interventions (energy and agriculture);

4.1.4 - the importance of water resources in the national and local economy, the role of water in protecting and preserving the environment and the state of the water resources infrastructure, consistency with national water development objectives;

4.1.5 - the institutional and administrative framework on water resources and the existing barriers. Analysis of the institutional arrangement and gaps and coordination mechanism. List of organizations, agencies to be involved in the adaptation intervention. Indicate the needs for capacity development related to the production of the reservoir infrastructure, other institutional needs.

4.2 Provide rationales for adaptation intervention.

Undertake baseline study, including demand/supply analysis:

4.2.1 - based on the data provided by the national consultants produce the baseline scenario for water-related adaptation intervention (review the status of existing hydrographic reservoirs- ponds, lakes, tanks, etc, including their number, size, spatial distribution, estimation of capacities, water volumes, water quality, type of property, destination, other characteristics);

4.2.2 - based on developed water-related baseline scenario, provide a framework for defining which strategy may be appropriate in developing the water reservoirs infrastructure in Moldova with their topology, definition of the needs in surface water with link to food security objective and the objective of long-term resilience of drought-prone areas of the country;

4.2.3 - analyze potentially involved stakeholders: their categories, their number and role, including consumers of water resources (farmers, mayors, associations, state structures, other);

4.2.4 - define potential beneficiaries and undertake the analysis of their problems, as well as the interconnection of issues: political-regulatory, water resource requirements, economic and financial aspects, demographic, institutional and management, technical, environmental, other. Indicate potential conflicts of interest (social, economic, political) that may arise between stakeholders and proposed solutions/recommendations that would anticipate conflicts between stakeholders;

4.2.5 - apply suitable methodology to estimate surface water demand of various categories of users. Users demand should be assessed in the context of the estimated total future demand and supply based on projected climate scenario.

4.3 Provide information on intervention conditionalities

Indicate any (pre) conditionalities in implementing the adaptation intervention:

4.3.1 - contribution of agencies other than those directly involved in the project required to achieve the project objectives;

4.3.2 - other, to be indicated.

4.4 Describe the design and implementation of the adaptation intervention:

The description of the intervention/project should follow adaptation logic.

Intervention activities to be described by:

4.4.1 - the link between reservoir infrastructure planning and the strategic planning of water resources in the country;

4.4.2 - the examination of the current and future water surface demand;

4.4.3 - the demonstration of the connection between the establishment of the reservoir network and the integrated water management, and the influence of the hydrographic network on the local and regional water cycle;

4.4.4 - the impact of reservoirs infrastructure expansion and energy needs and benefits;

- 4.4.5 - the relationship between reservoir capacity (water efficiency) and irrigation planting area, other agricultural use;
- 4.4.6 - the relationship between the impact of tank expansion and food security;
- 4.4.7 - describe the potential link between the increase of production activity in localities /region on the basis of reservoir network expansion. Assess the environmental pollution, including reservoirs;
- 4.4.8 - with the support of national consultants identify existing maladaptation actions (ex., the placement of reservoirs in the river basin with the barrier on the river water flow) related to water catchments and specify prevention actions to other potential maladaptations;
- 4.4.9 - with the support of the national consultants identify the geographical areas where the adaptation intervention could be piloted with the potential for expanding the scale and impact of the proposed intervention (replicability and upscaling), provide identification criteria for the pilot sites;
- 4.4.10 - with the support of the national consultants describe the procedures for organizing and implementing the intervention, detailing the tasks and responsibilities that the organizations involved will have;
- 4.4.11 - provide the timeframe for implementation of the intervention, its phasing and prioritization of the activities to be implemented in each phase.

4.5 Perform economic and financial analysis

Provide estimated costs of the intervention and financing plan based on:

- 4.5.1 - the expenditures (USD and MDL) per total required to implement the investment in accordance with the assessment carried out and (i) separately on each component, grouped according to the major milestones/outputs of the intervention, (ii) design, technical assistance and supervision expenditure during the implementation (iii) publicity and media coverage if necessary, including those incurred in public procurement procedures.

Undertake socio-economic (including vulnerability to climate change) and financial analysis of the intervention based on:

- 4.5.2 - analysis of water storage capacities of reservoirs, taking into account placement, supply, losses, requirements and how they are all distributed throughout the year;
- 4.5.3 - identification of the average annual water productivity depending on the destination of the reservoirs;
- 4.5.4 - identifying the costs of solar pumping system for water irrigation;
- 4.5.5 - financial analysis for recovery of the entire investment (without taking into account the manner and sources of financing);
- 4.5.6 - financial analysis for recovering the invested capital (taking into account the financing structure);
- 4.5.7 - Net Present Value/NPV, Financial Internal Rate of Return (FIRR), cost/benefit coefficient, investment recovery term;
- 4.5.8 - the necessary actions taken by the government and the private sector to be carried out until the project end date and during the implementation of the project;
- 4.5.9 - the final financial analysis must reflect the recovery of the entire investment (without taking into account the manner and sources of funding);
- 4.5.10 - analysis of job creation, boosting entrepreneurial activity at local level;
- 4.5.11 - analysis of the accessibility of new services provided for vulnerable groups in rural areas;
- 4.5.12 - assessment of the overall impact of the intervention on the welfare of all the citizens of the country;
- 4.5.13 - analyzing gender equality in the implementation of project activities as well as accessibility to new services and opportunities created by the implementation of climate change adaptation intervention;
- 4.5.14 - estimation of the degree of climate vulnerability reduction of communities that will benefit from the reservoir network;
- 4.5.15 - apply other economic and financial estimations as appropriate.

Perform the cost-benefit analysis of the proposed intervention

- 4.5.16 - using the passive scenario (no adaptation measures/ business as usual) and active (with adaptation measures);
- 4.5.17 - giving a comparative analysis of both scenarios;
- 4.5.18 - giving monetary values of intervention benefits and costs, associated with outputs and inputs within the timeframe of intervention implementation.

Alternative analysis

- 4.5.19 - the analysis of the alternative technical and economic solutions for the implementation of the adaptation intervention will be undertaken according to the financial, economic, institutional, management, social and environmental framework.

4.6 Describe the sustainability of the intervention based on:

- 4.6.1 - indication to what extent the political and regulatory framework contributes to the sustainability of the proposed intervention or the need to implement new policies and regulations;
- 4.6.2 - the extent to which the proposed technological approaches are compatible with the operational standards in the country and compared to the international ones;
- 4.6.3 - the extent to which the impact of the project on people/communities, land use, water, air, flora and fauna, cultural heritage is in line with approved environmental standards and practices;
- 4.6.4 - the extent to which the potential project is in line with existing socio-cultural norms and takes into account gender equality;
- 4.6.5 - the degree and effectiveness with which the institutions / agencies involved (public and private) are fulfilling their responsibilities.

4.7 Indicate the risk factors in intervention implementation.

Perform an objective analysis of the risk factors that may influence the estimated performance and jeopardize the implementation of the project:

- 4.7.1 - which may influence the investment costs;
- 4.7.2 - which may influence the elements of the forecasted cash-flow (prices or tariffs of products, services, utilities or raw materials, labor costs and interest rates, etc.);
- 4.7.3 - systemic risks that may affect the activity of all participants in the intervention;
- 4.7.4 - specifics of investments in water resources, (v) other identified risks;
- 4.7.5 - identify and recommend other effective ways of addressing risks.

4.8 Describe how to monitor and evaluate adaptation intervention implementation by:

- 4.8.1 - developing key indicators to monitor the implementation progress, results, activities, sustainability and impact of the project;
- 4.8.2 - intervention and post-intervention evaluation timetables;
- 4.8.3 – other.

Conclude and make recommendations relevant to the implementation of the potential intervention.

5. Deliverables

#	Key Deliverable	Tentative Timetable/Deadline
1	Inception Report including: Applied methodology, action plan, time schedule and the layout of the feasibility study.	End of July 2017
2	First draft of the Feasibility study	August 2017
3	Final version of the Feasibility study	September 2017
4	Final Report on performed assignment.	September 2017

6. Management/organizational arrangements.

The Consultant will work under guidance of Project Manager and UNDP CO. He/she will also work closely with the respective national partners, state institutions, local authorities, civil society and international organizations.

The International Consultant will be assisted by the Project Implementation Unit, UNDP CO, national consultants.

The Consultant will undertake at least 1 missions (~5-day mission) to Moldova comprising activities under the Project, meetings with Project team, national consultants, UNDP CO representatives, relevant national stakeholders.

IC will present the deliverables in English language version.

7. Qualifications and skills required:

Academic Qualifications:

- University degree in water resources management, climate change adaptation, economics, environmental sciences or other relevant field.

Experience:

- At least 10 years of progressively responsible professional experience in climate change, including at least 7 years of experience at the international level;
- At least one year of experience must be related to climate change adaptation;
- Professional experience in Eastern Europe is an asset;
- Proven experience on preparation of written reports in an accurate and concise manner, and public presentation skills;
- Proven ability to develop feasibility studies in water resources management and related areas.

Competencies:

- Knowledge of the political framework on water resources of Moldova (national policies, programs and implementation mechanisms), international water treaties signed by the country, intersectoral policies, especially with agriculture and energy as well as global and regional best practices in the field;
- Proven analytical skills, leadership and overall diplomatic skills;
- Good organizational, time management and facilitation skills;

- Fluency in written and spoken English is required for this assignment. Knowledge of Romanian and/or Russian will be an asset;
- Displays cultural, gender, religion, race, nationality and age sensitivity and adaptability;
- Proven commitment to the core values of the United Nations respecting differences of culture, gender, religion, ethnicity, nationality, language, age, HIV status, disability, and sexual orientation, or other status.

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.

8. Documents to be included when submitting the proposal:

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

- 1) Proposal:
 - a. explaining why they are the most suitable for the work including past experience in similar assignments (including a portfolio of promotional and visibility materials/content prepared by the consultant – list of links);
 - b. 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 (if applicable);
- 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) Duly filled in and signed Personal History Form (P11) and at least 3 names for a reference check.