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Terms of references

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Job Title: National Consultant in GIS & Geodatabase
Project Reference: Mainstreaming biodiversity conservation into Moldova territorial planning policies and land-use practices
Duration of Employment: August 2015 – December 2017 (with possible extension until December 2018)
Contract type: Individual Contract
Expected workload: 220 working days

I. Background
The United Nations Development Programme (UNDP), acting as an implementing agency of the Global Environment Facility (GEF), is providing assistance to the Ministry of Environment of the Republic of Moldova in implementation of the GEF Medium Sized Project (MSP) "Mainstreaming Biodiversity Conservation into Moldova's Territorial Planning Policies and Land-Use Practices" (BD mainstreaming project).

Despite the Government's reform efforts, the spatial/territorial planning framework is facing two types of barriers: (i) inadequate planning and enforcement framework and (ii) inadequate demonstrated experiences in spatial planning and biodiversity-compatible land management practices.

Against this background, the BD mainstreaming Project will be addressing the gaps in land planning and enforcement systems through development of relevant regulations, standards and legislation to accommodate biodiversity conservation objectives while the gap of limited coordination across sectors will be addressed by establishing a multi-stakeholder committee which will ensure a unified approach in the development, implementation and enforcement of land-use plans from the different ministries and departments. In addition, a monitoring system will be emplaced among the various regulatory agencies, assigning responsibilities based on comparative advantage, in order to evaluate acceptable limits of change in biodiversity-important areas. The gap of inadequate demonstrated experiences in spatial planning and biodiversity-compatible land management practices will be tackled through development and testing of biodiversity-compatible district spatial (land-use) plans in 2 districts of Moldova, relying on cross-sectoral working groups, GIS technologies for biodiversity mapping, identification of sites of conflict between biodiversity and human activities and others.

Overall, the objective of the project is to mainstream biodiversity conservation priorities into Moldova's territorial planning policies and land-use practices through two components – the first will focus on modifying the land use planning and enforcement system so that it addresses biodiversity loss, and the second will demonstrate methods for conservation and sustainable use of biodiversity on communal lands outside PAs.

The BD mainstreaming project is implemented as part of a larger biodiversity programme, which includes also UNDP/EU Clima East Project "Sustainable management of pastures and community forests in Moldova's first National Park Orhei to demonstrate climate change mitigation and adaptation benefits and dividends for local communities".

II. Scope of work and responsibilities

BD mainstreaming project is seeking a National Consultant in GIS & Geodatabases (hereinafter Consultant) in order to design and develop a spatially based digital decision-making system for biodiversity conservation.

The Consultant will report directly to the project manager of the BD mainstreaming project and will work with all other involved international and/or national consultants.

Expected tasks

The key tasks of the consultant are as follows:

1. **Development of the technical concept for establishment of the Spatially based digital decision-making system for biodiversity conservation in Moldova (BD GIS tool)**

   - Analyse the capacities of the state institutions (central and local), which can support, host and maintain the BD GIS tool.
   - Analyse and prepare an report on the existing information systems (incl GIS), databases, and available set of data which can be incorporated in the BD GIS tool, or can be linked to BD GIS tool. Identify how BD GIS toll can be linked with integrated environmental monitoring system.
   - Develop the draft technical concept for the esstablishment of the BD GIS tool.
   - Facilitation and coordination of the BD GIS tool at least 2 workshops aiming consultation and finalization of the BD GIS tool.
   - Develop a final consulted version of the BD GIS tool.

2. **Development of the technical specifications for the BD GIS tool**

   - Develop a general concept and a logical framework for the (including description of all proceses, data stream and workflow).
   - Develop in close collaboration with E-Governance centre, the BD GIS tool system architecture, hardware and network components based on cloud computing technology, in order to ensure the system functionality according to the national legislation in domain.
   - Describe in detail the linkages between other information systems, databases with BD GIS tool. Propose the technical solutions to ensure linkages between systems.
   - Identify the informational objects (components) of the BD GIS tool and relation between them. The consultant will develop the set of atributes for each of the component and will use CASE instruments for components modeling.
   - Identify and describe the types of users and their role in the system.
   - Identify and describe of the business procesess for each of the system actor and desription of the workflow for each of the system's function.
   - Develop of the technical specifications based on the following recomended structure (in accordance with the existing norms):

     ✓ References and legal aspects (Referințe și aspecte legale);
     ✓ Terms and abreviations (Termeni și abrevieri)
     ✓ System destination (Destinația sistemului)
     ✓ Automatization component type Bussiness-Model (Obiect de automatizare de tip Business-Model)
     ✓ Scheme of the information flow and operational levels (Schema fluxului de informații și nivele operaționale
     ✓ Systems architecture (Arhitectura Sistemului de Informații)
     ✓ Services included in the system (Servicii incluse în sistem)
     ✓ Bussiness roles (Business-roluri)
     ✓ Data-source owners (Proprietari de date – sursa)

- ✓ Owner of the information system and service provider (Proprietar al sistemului informațional și prestator de servicii)
- ✓ System administrator (Administrator de sistem)
- ✓ Roles of the system users (Roluri de utilizator de sistem)
- ✓ System users (Utilizatorii sistemului)
- ✓ Group of users (Grupuri de utilizatori)
- ✓ General scenario for acces at system services (Scenariul general de acces la servicii de sistem)
- ✓ General scenario for acces of the different user groups (Scenarii de accesare a serviciului de către diferite grupuri de utilizatori)
- ✓ System functionalities (Funcționalitățile sistemului)
- ✓ System of the operational modules (Sistemul de Module operaționale)
- ✓ User interface (Interfața de interacțiune a utilizatorului)
- ✓ Module for users administration (Modulul Administrare Utilizatori)
- ✓ Audit and statistics module (Modulul de Audit și Statistică)
- ✓ Business-Functions of the user (Funcțiile –Business ale rolului "Utilizator")
- ✓ Business-Functions of the Administrator (Funcțiile –Business ale rolului "Administrator")
- ✓ Business-Functions of the Owner of the data source (Funcțiile- Business ale rolului "Proprietarul Datelor-sursă")
- ✓ Requirements for Business-Functions (Cerințele față de Business-funcții)
- ✓ General requirements for the system (Cerințele generale de sistem)
- ✓ Security and data protection requirements (Cerințele cu privire la securitatea și protecția informației)
- ✓ Requirements for the software/hardware and communication chanels (Cerințe pentru infrastructura software / hardware și canale de comunicații)
- ✓ Requirements for information system documentation (Cerințe privind documentația sistemului informațional)
- ✓ Final product and description of the components (Produsul final și descrierea părților-componente)
- ✓ Timetable for system delivery

- Consult with E-Governance centre the developed technical specifications for BD GIS tool and facilitate obtaining of an written approval.

3. Esstablishment of the BD GIS tool based on the approved technical specifications

- Development of the BD GIS tool software platform based on the approved technical specifications. The process of the software platform development will be done in accordance with the government approved technical document ("Procesele ciclului de viață al software-ului" RT 38370656 - 002:2006 developed by the Ministry of Information Technology and Communication (http://www.mtic.gov.md/img/law/2010/proiect/06-23/RT38370656_002_2006.pdf)) and taking into account specific requirements from the E-Governance centre.
- Instalation the BD GIS tool software platform on the server offered by the beneficiary and testing.

4. Filling in the data ofered by the beneficiary in the BD GIS tool and interconecting with other relevant information systems

- Interconecting the BD GIS tool, using ISO, OGC and INSPIRE standards with at least following existing information systems: **www.gismediu.gov.md**, **www.geoportal.md**, **www.cadastru.md** and **www.biodiversitate.md**.

- Incorporate in the BD GIS tool the developed by the project District Spatial Plans (Soroca, Stefan Voda) and Land Use Plan's (Zastinaca, Badiceni, Talmaza, Copceac), in accordance with INSPIRE data models and government approved regulations. Include in the BD GIS tool all available LUP's and DSP's.
- Develop the map of the species/habitat distribution for Stefan Voda and Soroca districts based on the inputs from the biodiversity inventory team (e.g. location of critical habitats and species, and thresholds for the use of biodiversity resources).
- Perform other GIS and database tasks required by the project manager.

5. **BD GIS tool 12 months maintanance (starting from the date of the BD GIS tool transfer to beneficiary)**
   - BD GIS tool administration
   - Users activity monitoring
   - Archiving the database
   - Ensuring the back-up
   - Reports development at the beneficiary/owner request.

III. DELIVERABLES, ESTIMATED WORKLOAD AND TIMEFRAME:

The assignment should be carried out within a period of August 2015 – December 2017, not exceeding 220 working days.

	Deliverable	Deadline and workload
1	Detailed workplan	15 August, 2015 5 working days
2	First draft of the technical concept for establishment of the Spatially based digital decision-making system for biodiversity conservation in Moldova (BD GIS tool)	10 October 2015 30 working days
3	Final consulted draft of the technical concept for establishment of the BD GIS tool	15 October 2015 20 working days
4	Draft technical specifications for the BD GIS tool, ready to be presented to the E-Governance center	10 November 2015 25 working days
5	Workshop for presentation of the Final technical specifications for the BD GIS tool.	10 December 2015 10 working days
6	Draft BD GIS tool software platform developed based on the approved technical specifications.	31 May 2016 40 working days
7	BD GIS tool software platform installed on the server offered by the beneficiary and testing.	01 September 2016 20 working days
8	BD GIS tool interconected, using ISO, OGC and INSPIRE standards with at least following existing information systems: www.gismediu.gov.md, www.geoportal.md, www.cadastru.md and www.biodiversitate.md.	10 December 2016 30 working days
9	Data sets provided by the beneficiary incorporated into BD GIS tool (incl. LUP's and DSP's.).	10 December 2017 35 working days
10	Final narrative report submitted	10 December 2017

		5 working days

All deliverables shall follow UNDP/GEF/EU visibility guidelines and shall be endorsed by the BD mainstreaming/Clima East Project Manager.
Deliverables can be amended or specified for the purpose of the assignment.

Management Arrangements:

Consultant will work under the overall guidance of the BD mainstreaming/Clima East Project Manager, in coordination with the Ministry of Environment of Moldova and other stakeholders. The Contractor will report to the UNDP BD mainstreaming/Clima East Project Manager.

Financial arrangements:

Payment will be disbursed in instalments upon submission and approval of the final documents as specified under 'Deliverables and Timeframe' section and certification by the Project Manager, and UNDP Portfolio Manager, that the services have been satisfactorily performed.

IV. QUALIFICATIONS AND SKILLS REQUIRED

Academic Qualification:

- University Degree in Environment, Geography, Geoinformatics, ITC Studies or other closely related field.

Experience:

- At least 5 years of experience in development of the informational systems;
- At least 5 years of experience in GIS;
- Experience of development of ICT projects in domain of environment will consider a strong advantage;
- Experience in domain of biodiversity conservation, environment will be of a strong advantage;
- Experience in working with state institutions at central and local levels.

Competencies:

- Ability to work in a team;
- Experience in similar positions in a UNDP and/or other international projects are an advantage;
- Proven commitment to the core values of the United Nations, in particular, respecting differences of culture, gender, religion, ethnicity, nationality, language, age, HIV status, disability, and sexual orientation, or other status.

Language requirements:

- Fluency in oral and written Romanian and Russian. Knowledge of English will be an asset.

The United Nations Development Programme in 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.