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| Programme: | Integrated Biodiversity Management, South Caucasus (IBiS)  |
| PN: | 15.2101.2-002.00 |
| Assignment: | Development of mobile application for Armenian Red List Species |
| Period: | 25/10/2018 – 20/02/2019  |

1. **Brief programme information**

The biodiversity of the South Caucasus is of global importance, but the huge variety of species and the proper functioning of the ecosystems are under threat. There is considerable pressure from the exploitation of natural resources by the local population, private industry and governments.

In each of the three countries of the South Caucasus – Georgia, Armenia and Azerbaijan – there are National Biodiversity Strategy and Action Plans (NBSAPs) and initial sectoral strategies for managing biodiversity and ecosystem services. As yet, however, these are unable to withstand the challenges posed by the conflicting interests of different sectors (forestry, pasture farming, agriculture, nature conservation and tourism). There is a lack of coordination between the various state and non-state actors and population groups (e.g. shepherds and farmers). In addition, there is not enough reliable data available on the different sectors to support planning and decision-making processes.

Within the framework of the Caucasus Initiative of the German government, the programme cooperates primarily with the environment ministries of the three different countries of the South Caucasus. The programme follows a multi-level approach. At national level, it promotes the development or revision of biodiversity strategies and regulations, particularly in forest and pasture management, and in erosion control. The experience gained from the pilot measures at district, municipal and local levels are incorporated into this process. As part of these pilot measures, relevant actors are provided with the skills needed to implement integrated approaches for sustainable management of biodiversity and ecosystem services.

The module objective of the programme is to promote better coordination of biodiversity and ecosystem services management across sectors on the basis of solid data. The programme comprises four areas of intervention with the following objectives:

1. Instruments and coordination processes for the sustainable management of biodiversity and ecosystem services at local level are tested.
2. The implementation capacity of line ministries, their subordinate bodies and of training institutions regarding the management of biodiversity and ecosystem services is improved.
3. The perception of the general public towards the importance of biodiversity and ecosystem services is more positive.
4. The regional exchange on sustainable management of biodiversity and ecosystem services is improved.

IBiS follows up on the achievements of the programmes “Sustainable Management of Biodiversity, South Caucasus” and “Integrated Erosion Control in Mountainous Regions”, and is due to last four years (from December 2015 to November 2019). The programme is implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH on behalf of the German Federal Ministry of Economic Cooperation and Development (BMZ) with co-funding in Armenia and Georgia from the Austrian Development Cooperation (ADC).

1. **Context**

Severe environmental and biodiversity losses, dating back to the Soviet era, are major challenges facing Armenia today. Problems such as mass degradation of forestry conditions, climate change, biodiversity loss, soil erosion and landslides, desertification, and others, form the cornerstone of the present environmental situation. There is too little public awareness of the principles underlying the sustainable management of biodiversity and ecosystem services. Awareness raising activities are neither coordinated and intended for large target groups, nor mainstreamed within training institutions or planning and decision-making processes.

The topic of forests is of main focus both for GIZ IBiS Programme and its main partner Ministry of Nature Protection (MoNP). Based on the joint concept on environmental awareness raising campaign, developed by GIZ and MoNP in July 2018, a campaign with its subsequent activities will be implemented for the purpose of raising awareness of population on the value of forests and their alternative use. This assignment is an integral part of the Joint Concept Paper on Environmental Awareness Campaign, developed by GIZ and MoNP. Therefore, the concept paper (Annex 1) should be reviewed carefully and considered during the assignment.

One of the activities of the concept paper is the development of a mobile application on Red list species of Armenia.

A mobile application on a map of Armenia with its Red List species per region is planned to be developed. The purpose of the application is to create awareness on the species of flora and fauna in Armenia. The main target groups are the tourists, students and the local population, for whom it will serve as a guideline in order to know and protect the red list species in their community. In order to mitigate certain risks of overexploitation of these species, the map will make sure that the location of each species is not very precise.

MoNP will provide the Red list in the currently available electronic format. This application should be a good way to observe and get to know plants, birds, animals, amphibians and reptiles. The idea of the application is that each registered user (registration will be open) can send feedback and comments to the administration. The idea can be further clarified with IT company and more specifications can be later on added.

The consultancy will be carried out in close coordination with the coresspondent subordinate bodies of the RA Ministry of Nature Protection, such as Department on Information and Public relations, Department of Internatioanal cooperation and others.

IBiS programme will assist the consulting company in discussing the mobile application development process and final result with the relevant authorities in the Ministry of Nature Protection so that the developed application has the most possible ownership by the correspondent partner organization.

1. **Objectives and tasks**

The objective of the assignment is to develop a mobile application for Armenian Red List species for Android and iOS mobile operation systems in Armenian and English languages, based on the provided demo idea of a similar concept in Annex 2.

The Company is expected to fulfil the following tasks in close cooperation with relevant partner representatives:

TASK 1. **Develop a mobile application for Armenian Red List** based on following considerations:

* Provide the map of Armenia with separation by marzes, where the data on flora and fauna species should be inputted by the IT Company. In order to mitigate certain risks of overexploitation of these species, the map should make sure that the location of each species is not very precise.
* The company should build the content of the application based on existing Red List structure and data in Armenian and English, to be provided by MoNP. Respective legal regulations in regard to Red List should be discussed with MoNP and considered in the development work.
* Design the application in eye-catchy and user-friendly style and come up with 2 possible names and design. The final design, name and icon should be chosen together with GIZ and MoNP.
* Design the application in both Android and iOS mobile operation systems. The application should be deployed in Apple App Store and Google Play Store respectively (developer fees for both markets should be included in financial proposal).
* A search function should be available, where users can search for certain species using thier attributes (e.g. indicating the name either in Armenian/English/Latin, indicating location or family, etc.).
* The application should allow users to register (registration will be open) and each registered user can send feedback and comments to the administration as well as to be able to add new species, or edit/add attributes of already existing species (later to be approved by the administrator).
* The final application should include a short feedback questionnaire, which will be designed for getting feedback of users on their potential behaviour change, followed by the use of the application. The questionnaire will be provided by GIZ, the role of consultant is to design it similarly to the application, support its placement and advise and develop other possible simple tools for organization of better feedback collection.

TASK 2. **Testing and debugging**. Every single aspect/function/data flow in the mobile application should be tested and debugged. The final debugged version should be presented to MoNP and GIZ IBiS Programme. The developed application should be presented to the correspondent stakeholders during a workshop/meeting and be updated based on the feedbacks received.

TASK 3. **Developing a comprehensive user manual and training.** The user manual should be prepared in Armenian language and contain but not be limited to (a) detailed description of the existing functions and data organization in the system; (b) detailed description of the operation of each functionality with appropriate screenshots; (c) description of dataflow within the system with its demonstration example, etc. One time training and further assistance to MoNP representatives during the first 5 months after application launch should be provided.

TASK 4. **Reporting.** This task should include the preparation of comprehensive report about the performed development such as the components of the system (OS, database and its structure, programming languages used, server, etc.).

TASK 5. **Future technical maintenance proposal.** This task is to prepare detailed proposal on mobile application additional functions development and technical maintenance.

1. **Expected outputs**

The expected outputs of the assignment are:

Output 1. Fully operational (tested and debugged) mobile applications (iOS and Android) with up-to-date database to be presented and discussed with stakeholders.

Output 2. Presentation of the final applications to MoNP and GIZ IBiS and other stakeholders.

Output 3. Comprehensive user manual of the application in Armenian language.

Output 5. Final report on performed developments, including proposal for further technical maintenance and development.

Output 6. Complete source codes of the application for both platforms.

Reports are to be prepared according to the official IBiS report format.

All documents shall be delivered electronically in Armenian language to GIZ IBiS.

The consultant shall report to Team Leader IBiS Armenia. The consultant works in close cooperation with IBiS advisors, as well as respective representatives of MoNP.

1. **Time frame and work schedule**

The assignment needs to be implemented during the period October 25, 2018 – February 20, 2019, and should cover up to 40 working days as follows:

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| Task 1 | Up to 24 working days |
| Task 2 | Up to 8 working days |
| Task 3  | Up to 4 working days |
| Task 4 | Up to 2 working day |
| Task 5 | Up to 2 working day |

A detailed time and work plan will be discussed and agreed with the consulting company based on the provided technical proposal.

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