REPUBLIC OF TAJIKISTAN

THE COMMITTEE FOR ENVIRONMENTAL PROTECTION UNDER THE GOVERNMENT OF THE REPUBLIC OF TAJIKISTAN

CENTER FOR IMPLEMENTATION OF INVESTMENT PROJECTS

Tajikistan Resilient Landscape Restoration Project

**Terms of Reference**

Conducting National Forest Inventory and Forest Management Plan

activities on the territory of the Republic of Tajikistan

Package reference: TRLRP-CS-QCBS-01

The Republic of Tajikistan received funds from the World Bank (International Development Association) for the implementation of the RESILANDCA +: Project: Tajikistan resilient landscape restoration project (TRLRLP) through the Committee for Environmental Protection under the Government of the Republic of Tajikistan (CEP) with the support of the Center for implementation of investment projects established in the framework (CEP CIIP) in cooperation with the recipient the State Forest Management Entities (SFMEs).

The Project will implement field activities in Khatlon Region (Kabadiyan, Shahritus and Nosiri Khusrav), Gorno-Badakhshan Autonomous Oblast (GBAO) (Vanj, Rushan, Shugnan and Murghab) and Sogd Region (Ayni, Gorny Matcha and Penjikent city).

The project consists of the following components:

**Component 1. Strengthen Institutions and Policies, and Regional Collaboration.**

This component will finance consulting services, goods and equipment to support the strengthening of national institutional policies and legal frameworks, developing of knowledge and skills of government, communities and other stakeholders for landscape management, and improving the capacities of government partners to operate effectively. Under this component, financing will be provided for activities to support regional collaboration efforts, to contribute to landscape restoration that benefits both Tajikistan and the wider Central Asia region with which the country shares and contributes critical resources and infrastructure.

**Component 2. Enhance Resilient Landscapes and Livelihoods.**

Overall, this component will finance works, consulting services, non-consulting services, goods, and grants. Both government institutions and communities will implement a range of landscape restoration investments. To support the selection of investments, assistance will be provided for landscape restoration planning. All planning will encourage women’s leadership, will follow citizen engagement mechanisms, and will be based on good practice principles for a landscape approach when reconciling different and often competing land uses.

**Sub-component 2.1. Forest Restoration and Sustainable Forest Management.**

The FA will lead on the technical aspects of this subcomponent, while the financial and procurement management responsibilities will remain with CEP. This subcomponent includes the following key activities:

* Conducting National Forest Inventory;
* Preparation and implementation of forest management plans for eight State Forest Management Entities (SFMEs) and one fruit tree nursery;
* Carry out afforestation works, fuelwood plantations and natural forest regeneration.

**Sub-component 2.2. Integrated Pasture Management and Restoration.**

The Pasture Reclamation Trust under the Ministry of Agriculture will lead on technical aspects of this subcomponent, while the financial and procurement management responsibilities will remain with CEP. This subcomponent includes the following key activities:

* Geobotanical surveys and pasture inventories;
* Establishment of forage seed demonstration plots;
* Development and implementation of Pasture/Livestock Management Plans for Pasture User Unions.

**Sub-component 2.3. Protected Area Management and Biodiversity Conservation.**

This subcomponent will be technically led by State Institution of the Specially Protected Natural Areas (SISPNA), as part of CEP. This sub-component includes the following activities:

* Preparation and implementation of priority specially protected natural areas management plans for Tajik National Park (TNP) (bordering the Kyrgyz Republic), Zorkul State Nature Reserve in GBAO (bordering Afghanistan), National Yagnob natural park in the Zarafshon river sub-basin (bordering Uzbekistan), and Tigrovaya Balka State Nature Reserve in Khatlon region (bordering Afghanistan).

**Sub-component 2.4. Landscape Restoration and Livelihoods.**

The project will provide sub-grants to villagers/farmers organized as CIGs to implement small- scale livelihood investments based on existing Village Development Plans and actions. Suitably qualified organizations will be contracted to facilitate formation of CIGs. The CEP IT will provide the technical lead for this subcomponent and oversee the management of sub-grants to beneficiaries. Under this subcomponent, the project will support crop land-based livelihoods—climate-smart crop production practices and technologies—through sub-grants for sub-projects to groups of village residents, farmers that form CIGs.

**2. Objectives:**

**National Forest Inventory (NFI)** Better information is required at the national level, for strategic planning and monitoring. For over 30 years, Tajikistan has been without national-level data on its forests. During these decades, there have been significant quantitative and qualitative changes in forest ecosystems. The project will finance a national-level systematic NFI using a low sampling density, employing state-of-the art methodologies for forest inventory, including geospatial analysis using earth observation data. The NFI process will begin with a national land cover classification project that will (a) guide the selection of field locations for sample plot inventory and (b) classify the entire national land cover according to nationally agreed categories. The NFI will establish key parameters such as the total areas of forest by type and ownership (as needed), total standing volumes by species and size class, regeneration, incidence of pests and disease, and the distribution of key indicator species for biodiversity conservation. Other relevant data will also be collected, for example, evidence of illegal removals, erosion, forest fires and so on, as required. The NFI will focus on forests and tree cover wherever this occurs (ie State Forest Fund, protected areas, other government lands, private lands, etc).

**Forest Management Plans (FMP)** The consultant will collect suitable survey data before preparing forest management plans for the following eight State Forest Management Entities (SFMEs):

* Penjikent - 108000 hа;
* Ayni - 193500 ha;
* Kuhistoni Mastchoh - 58500 ha;
* Shahritus – 22900 ha;
* Nosiri Khisrav – 20800 hа;
* Qabadiyan – 58900 hа;
* Forest nursery in Qabadiyan - 69 hа;
* Vanj – 589000hа;
* GBAO – 94090 ha.

This will include forests and pastures inside the State Forest Fund.

## 3. Services to be provided by the consultant and deliverables

The consultant will provide the main services and deliverables in the framework of the tendered mandate listed in the following.

1. Land cover assessment

Develop and establish a design for national land cover assessment with the corresponding data management system for field data transfer, data analysis, data management and system’s maintenance. The assessment will cover the current extent of the main forest types and of other major land cover types by remote sensing and corresponding ground truthing, allowing the production of the corresponding digital maps. Compile a report describing the approach, outputs and accuracy levels achieved. Assist the СIIP and FA in clarifying the future location of and institutional responsibility for the data management system.

Deliverables:

* 1. Documented design and methodology for the land cover and forest cover assessment including a sample design for ground truthing / supervised classification.
  2. Documented design for a data management system that allows robust entry, storage, transfer, management, analysis and export of data and that includes a web-based application for data query and display of data to allow access via Internet for authorised users.
  3. Data management system including all raw and processed data (softcopies) and instructions for users (hard- and softcopies).
  4. Updated figures for the current extent of forest cover by main forest types and other major land cover types, indicating error matrix, producer and user accuracy of such information.
  5. Digital maps showing the extent of the forested area by main forest types and of other land cover types.
  6. Documented recommendations on the future location and institutional responsibility of the data management system to ensure its sustainable use in the mid- and longer term.

1. National Forest Inventory

Deliverables:

2.1) Report on workshop addressing Information Needs Assessment & enhanced stakeholder appreciation of scope (and limitations) of NFI

2.2) Listing of equipment needed and purchase of same, once agreed with FA

2.3) Report describing field survey methodology, sampling approach and expected accuracy of major variables

2.4) Field survey manual

2.5) Provision of all software systems (field survey, data validation, analysis, storage, reporting)

2.6) Field survey schedule and logistics plan

2.7) NFI Analysis and final results report, results workshop, quality control report, website updated with results

1. Forest Management Plans

Deliverables:

3.1) Report describing planned extension of the Land Cover Classification Scheme (LCCS) to address challenge of stand-mapping for FMP in selected State Forest Enterprises, including the segmentation accuracy expected to be achieved for relevant mapping units, including their definition (e.g. forest stands, pastures, differentiated by type where possible)

3.2) Report describing field survey methodology, sampling approach and expected accuracy of major FMP variables (bearing in mind LCCS approach to be adopted)

3.3) Field survey manual for FMP

3.4) Provision of all software systems (field survey, data validation, analysis, storage, reporting)

3.5) Field survey schedule and logistics plan (NB this is expected to be coordinated with the NFI survey to maximise logistical efficiency of each survey crew in those areas containing NFI AND FMP plots)

3.6) Forest Management Plans Forest inventory data reports (based on imputation of survey data to stand level)

3.7) Forest Management Plan prescriptions, consultations and associated context information compiled

3.8) Forest Management Plans completed and accepted by FA

1. Contribute to the development of capacities of FA and staff and other partner organisations in Tajikistan to carry out future forest inventories, use, conduct forest monitoring, elaborate forest management plans and work towards sustainable forest management by increasing cooperation with other forest and pasture users.

Deliverables:

4.1) Introductions and trainings, mostly on the job, of members of staff of FA, and other partner organisations involved in work under this mandate, documented in the final report on the mandate.

As a deliverable covering the entire mandate, the consultant submits a final report to the СIIP on behalf of FA. This report summarises the main steps of the work undertaken and achievement of objectives and identifies lessons learnt from the process and recommendations for future forest inventories and forest management planning in Tajikistan.

The reports, maps and other deliverables should be delivered in printed copies along with digital copies of the deliverables, collected data and other working documents. The consultant submits the deliverables to the СIIP on behalf of FA as soon as they have been finalized. The client checks delivery of all deliverables after conclusion of the main steps defined above, one month before and at the end of the contract duration.

## 4. Scope of work and methodology

The work will be structured into a design and a field implementation phase, the latter including the main steps of conducting the forest cover assessment and the forest inventory, analyzing the resulting data. The technical and the financial proposal should reflect these phases and main steps. The bidders are asked to present the design and the sampling for the forest cover assessment and the forest inventory in their technical proposals. Prior to doing field work, the inventory contractor will update the Supervising Committee and the CIIP on last adaptations of the design and the sampling for the forest cover assessment and the forest inventory and the expected accuracy that will be achieved.

In the overall design, it is important to distinguish these steps:

1. The assessment of the extent of forest cover by main forest types and of other major land cover types
2. The planning and execution of field survey of NFI and FMP plots (for logistical efficiency the same inventory crews will be expected to complete NFI and FMP plots in each locality before moving to the next)
3. The analysis of sample plot survey information to compile NFI report
4. The analysis of sample plot survey information to compile FMP stand-level information by imputing values from sample survey
5. The development of Forest Management Plans based on stand-level information and standard norms and prescriptions

Step 1 intends to provide accurate information about the present extent and conditions of forests which can subsequently be used as a baseline for future monitoring (present vs. future) and step 2 intends to provide accurate information as a basis for statistically sound NFI and for forest management planning. The assessment (step 1) provides only quantitative data on the total forest cover and the extent of different forest types and other land uses. The more detailed forest inventory (step 2), on the other hand, provides quantitative and qualitative information on existing forests nationally and at stand-level. Steps 3 and 4 are the application of appropriate statistical tools to create national NFI report and stand-level FMP input data, respectively. Step 5 is the stage of developing FMP according to national norms.

The consultant is free to choose and propose approaches and inventory methodologies that ensure achieving the expected results as per these TOR within the given budget and period of time specified in the CoT. This methodological choice and in particular the technical soundness, cost effectiveness and efficiency of the proposed approaches and methods have to be elaborated in detail in the technical offer. The bidders are also invited to provide draft forest inventory manuals that they propose to use as annex to their technical proposal.

GIZ has developed a simplified “methodology for conducting inventories of forest in Tajikistan” which has been field-tested in the SFE Penjikent and formally approved by the FA. This methodology is available online for the bidders to download for their information. In addition the report “Forest Management Planning and Monitoring System for Tajikistan Technical and Institutional Set-up Recommendations” is also of relevance to this engagement. The consultant is free to apply the recommendations of these reports in whole or in part, with the necessary modifications to ensure producing the expected deliverables described in these TOR. For NFI the required precision is +/ 10% at 95% confidence for basal area at national level for each of the main forest types. For stand-level estimates, the consultant is asked to provide estimates of precision they intend to achieve, with minimum mapped unit size of 1 ha.

Classifications and measurements are to be based on internationally agreed standards and definitions and on definitions given in the Forest Code of the Republic of Tajikistan. For all the work, the forest definition given in Article 1 of the Forest Code is applied:

Forest – a complex of natural vegetation formed naturally and artificially in a certain area by a community of trees and shrubs (no less than 10% of the area should be covered by wood-forming plants, with a total area not less than 0.5 hectares and a width not less than 10 metres) and other components of wildlife interacting with the environment and having important ecological, economic and social value;

**4.1 Design of forest cover assessment, forest inventory and planning data management system**

During the design phase, the consultant will design a system to electronically capture the land cover assessment ground truth / photo interpretation data; field sample plot survey data; forest management plan prescription generation; forest management plan data capture; and develop a system for the management, processing, analysis and storing of these data.

The data management system should comprise all necessary elements, including for example, field survey using smart phone / tablet open source applications such as Open Data Kit or Kobotools, an electronic data base, a Geographic Information System (GIS) for the management and representation of geographic data, input forms, report templates, to perform the forest assessments and inventories as described in these TOR in a technically sound, efficient and user friendly way. It should allow the recording of inventory data in the field, entry, transfer, analysis, management and output of data as well as the management and graphic illustration of data and information example as graphs or maps illustrating inventory results. These data should all (spatial and non-spatial) be stored together in an open source relational geospatial database (ideally Postgres/Postgis) hosted at the consultants expense. The data management system to be established should be used beyond the end of the mandate and СIIP for managing forest inventory and resources data throughout Tajikistan. Before the end of the project the data management system should therefore be implemented at the Forest Management Department of the FA with all the required data, programmes, and utilities. CIIP and the Forestry Agency under the Government of the Republic of Tajikistan will facilitates the decision making process on the future location, operation and institutional responsibility of such a unit to ensure the sustainable use of the data management system in the mid- and longer term (including TOR, identification of training needs, proposed equipment for the operation of the unit). The consultant will provide technical assistance in this process.

**4.2 Assessment of land cover by main class and by forest types**

The assessment of the land cover will yield figures for the parameters shown in Table 3 below at the national and sub-national levels.

Table 3: Parameters of the forest cover assessment.

|  |  |
| --- | --- |
| Forested area [ha]  by main forest types:   * Riparian forests (tugai) [ha] * Juniperus forests [ha] * Broadleaved forests [ha] * Small leaved forest species [ha] * Xerophytic forests [ha] * Other forest type [ha] | Non-forested area [ha]  by main land cover type according to a list compiled using FAO approach to Land Cover Classification System 3 (LCCS 3) and confirmed through local consultation, e.g.:   * pasture/meadow [ha] * farmland/field (including fallow) [ha] * open land with no or little vegetation cover [ha] * water body [ha] * other [ha] |

The consultant will produce forest cover maps showing the extent of the forested area by main forest types and of other land cover types. For project monitoring purposes, these figures and maps should represent forest cover as it was at a point in time no earlier than three years prior to the start of the date of signing of the contract.

These figures and the resulting forest cover maps should be produced using remote sensing (satellite) image analysis and objective ground controls to assess the accuracy of the data and mapped features. The contractor is free to use free or other remote sensing images at his disposal to conduct the tasks. The contractor is responsible to conduct the necessary preliminary processing of the remote sensing images (e.g. geometric adjustment, image calibration, topographic correction, image enhancement) before the analysis.

The land-cover information will be mapped using photo-interpretation techniques and digital image processing at a scale that allows production of maps at least at a scale of 1:25,000. Digital image interpretation will be performed using recent versions of such specialist software systems. The consultant commits to applying rigorous quality assessments during the entire mapping process to ensure uniform and high mapping standards and presenting an estimate of the accuracy achieved in all relevant reports.

Steps:

* Initial collection of training data
* Conduct supervised land cover classification
* Conduct quality assurance steps
* Strategic workshop led and facilitated by the consultant to present the draft forest cover assessment and the forest cover map for the FA and to gather feedback
* Produce final forest cover map

**4.3 National Forest inventory**

The main steps for the National Forest Inventory:

* First workshop held to introduce NFI concept and indicators proposed by stakeholders
* Sample survey design delivered together with associated precision to be expected at different forest type and geographic level, including finalized indicators
* Field survey manual delivered, including required equipment list (for procurement)
* Equipment procured
* Logistical plan completed for field survey
* Field surveyors assembled and trained with procured equipment
* Sample plot survey is executed (during one or more field survey seasons)
* Quality control executed on continuous basis by a dedicated team trained and equipped to the same standard as normal field teams
* Quality control report completed
* NFI results analysis system completed
* NFI results report issued
* National results workshop held to disseminate results report
  1. **Inventory for** **Forest Management Plan**

The minimum detail requirement for the forest management planning and thus for its preceding inventory is the availability of sufficiently precise data to do the forest management planning at the level of silvicultural management units (forest stands) within the forest ranges. Forest stands should be identified in function of forest characteristics that are relevant for the silvicultural treatment of the forest or territorial criteria. The inventory should allow the differentiation of such forest stands and their verification, with accuracy of estimated parameters presented in statistical terms (e.g. 10% percent error at 90% confidence). It is recommended to adhere to the "Forest Management" method in the forests of the Republic of Uzbekistan, Kyrgyzstan, Turkmenistan, Kazakhstan and the Russian Federation as the reference for this work.

Suggested steps in this process are

* Process reviewed and updated, including development of FMP guidelines
* Land cover assessment approach extended using classes appropriate for FMP process in target State Forest Enterprises
* Sample survey design (likely to be at a higher intensity of plots than NFI) delivered together with associated precision to be expected at stand level for different forest types and age categories, as appropriate, and in coordination with expected output from land cover exercise
* Additional data on livestock, pasture management and socio-economic aspects regarding forest use by local people to be provided by community mobilisers (CMs);
* Intensified sample plot survey is conducted to gather information for forest management planning
* For each planning FA and other stakeholders jointly define a strategic vision that is consistent with the goals and objectives for the development and management of the forests in the forest range concerned over the coming ten years.
* Plan is developed based on stand data, standard norms and prescriptions
* Second planning workshop led and facilitated by the consultant to present the inventory results and get input from FA representatives and other stakeholders concerned of the forest management plan;

In the technical proposal, the bidders should explain key features of the inventory approach and methodology they propose, such as a possible combination of remote sensing and field measurements, sampling design, phasing, stratification, sample plot design, approximate number of sample plots required, parameters to be measured and target accuracy to be achieved for key measurement indicators.

The parameters for assessment or measurement are shown in Table 4 below.

**Table 4: Parameters to be assessed or measured.**

|  |  |
| --- | --- |
| Parameter of | Parameters |
| Plot | 1. Slope 2. Aspect 3. Relief 4. Main forest type 5. Erosion 6. Use of NTFPs |
| Forest stand | 1. Origin of the stand 2. Species mix 3. Vertical structure 4. Grazing intensity 5. Ground vegetation 6. Crown cover of woody species [%] 7. Forest degradation |
| Tree, shrub | 1. Species 2. Quality of timber |
| Regeneration of woody species | 1. Species 2. Perspective use of non-timber forest Species |

* 1. **Capacity development of Tajik partner organizations**

Members of staff of FA, and other partner organizations will be involved actively in the design, the implementation of forest inventory work that the consultant will be leading. This involvement will contribute to the development of capacities for forest inventory, inventory data analysis management and forestry planning in Tajikistan.

## Equipment, hard- and software

All the necessary equipment needed for the forest cover assessment; inventory work should be provided by the contractor and handed over at the end of the assignment to the FA.

The software used for this mandate should be open source. However, for the image processing activities the inventory contractor is free to use any software. The consultant should make best use of the satellite imagery, spatial data, maps, GIS and image processing tools already available at FA. If required, the contractor shall provide additional remote sensing images, other spatial, software or hardware for the provision of the forest inventory services described in these TOR.

All outputs of this work including inventory data, maps, reports and other deliverables will be included in the data management system and formally handed over to the FA for its maintenance and future use and become property of the FA.

## 6. Management and coordination

The company will report to the Project Implementation Center of the Committee for Environmental Protection and the Forestry Agency on the progress of the assignment.

The company is needed for the entire duration of the project, which ends in 2027. However, the contract with the Company will be concluded for a period of 30 months.

**7. In the form of a printout of the FMP inventory results:**

Maps of forestry taxation works in scale 1:25 000 by region - 20 copies

Maps of forest inventory works on a scale of 1:50 000 by region - 20 copies

Taxation book by forestry - 3 copies

Maps by types of lands at a scale of 1:25 000 by forestry - 20 copies

Inventory book by types of lands with contour calculations - 30 copies

Map by the forest land categories (forest, non-forest, forested areas, non-forested areas, glades, glaciers, water reservoirs, pastures, hayfields, etc.) at a scale of 1:25 000 in the frame of the forestry - 30 copies

Map of fire hazardous forest areas on the scale of 1:25 000 by forestry - 30 copies

User manual on the use of GIS and the database of the inventory results.

**8. Qualification requirements and selection criteria**

The CIIP (Center for Implementation of Investment Projects, CEP under the Government of the Republic of Tajikistan), with the assistance of the Forestry Agency under the Government of the Republic of Tajikistan, will provide the company with the relevant project documentation, the necessary additional information, documents and other materials necessary for the performance of work in accordance with this Terms of Reference. The CIIP, with the assistance of the Forestry Agency under the Government of the Republic of Tajikistan, will contribute to the effective work of company within current Terms of Reference, including assistance in working with national and local government bodies, and other state, non-public and private organizations.

**9. Effectiveness indicators of ToR implementation**

* Delivery and acceptance of National Forest Inventory results and report
* Delivery of Land Cover map and summary report
* Delivery of required Forest Management Plans
* Number of forestry specialists and practical students involved in the inventory process;
* Number of developed guidelines and guidelines for determining forest resource use standards;

**10. Expected deliverables**

The company will systematically report to the CIIP and the Forestry Agency under the Government of the Republic of Tajikistan on the progress of the assignment.

Reporting includes both periodic informal reports in the form of presentations or oral discussions, as well as written reports. The type, structure, form and frequency of reports should be coordinated with the CIIP and the Forestry Agency under the Government of the Republic of Tajikistan.

An approximate list of reports and their frequency are presented in the table below. All written reports shall be prepared and sent in soft copy (by e-mail) and/or hard copy within the agreed period to the CIIP team and to the Forestry Agency for their subsequent approval. Reports should be written in Tajik and English.

|  |  |  |
| --- | --- | --- |
| № | Report title | Deadline for submission from the date of contract signing, days |
| 1 | Development and approval of a detailed work plan with the CIIP/FA, indicating the main results for each stage and the deadlines for execution | 1 month |
| 2 | Land cover mapping and reports | 3 months |
| 3 | NFI results report | 24 months |
| 4 | FMP completed and accepted by FA | 28 months |
| 5 | Report on the work done and tasks completed | 30 months |
|  | Note: Provide monthly progress report |  |

**11. Qualification requirements and selection criteria**

A local company operating on the basis of the charter, with at least seven years of experience in the field of land management, forest management, cartography in the Republic of Tajikistan will conduct forest inventory.

The Company is fully responsible for the implementation of the tasks, including the determination of training needs and their implementation, outlined in current ToR to achieve the set goal. The company is also fully responsible for achieving the agreed goals, including basic and target indicators for forest inventory based on the forest accounting.

Minimum 5 years of experience related to the following areas:

* Survey or topographic work, as well as map development:
* carrying out land management or forest management, monitoring and cadaster of forests (lands);
* Distribution of Forest Fund by protection categories;
* Establishment of measures for the protection and conservation, reproduction and sustainable use of forests;
* Conduction of other legal, organizational and technical measures for the study, accounting, protection, conservation and restoration of forests;
* Demonstrated knowledge of recent achievements in promoting effective measures in the field of survey or topographic work;
* Best practices in mapping and environmental planning;
* Creative approach, openness to innovation, systemic thinking, and the ability to develop stimulating approaches with their subsequent implementation
* Experience in implementing large-scale and integrated projects in the private sector aimed at development of the forest sector;
* Previous experience of work with the Forestry Agency, the Committee for Environmental Protection, the Ministry of Agriculture, the World Bank and/or other donors is an advantage;
* Deep knowledge of the conditions for the development of the public and forestry sectors in the Republic of Tajikistan (especially in the south of the Khatlon region and GBAO), the upper reaches of the Zarafshon river basin, as well as the socio-economic conditions in which this project will be implemented, is an advantage.

**12. Team’s Qualification Requirements**

The company has the right to hire international experts for conducting forest inventory, to hire international experts and local national forestry experts.

All the team members should have good command of Tajik/Russian languages and English is preferable.

Team Leader – higher education ("diploma"/master's degree) in one of the areas of forest management, land management or related fields; Good command of English and Russian languages; General professional experience 7 years of professional experience in the field of forest management; Special professional experience of 5-7 years in the field or fields required of the TOR. Leadership/Managerial experience 5 years of managerial/leadership experience as a project team leader or manager in a company.

Forestry Engineer - A forestry engineer must have a higher professional (forestry) education, with at least 7 years of experience in the forestry system, with a good knowledge of the Forest Code, the legislation of the Republic of Tajikistan on environmental protection and rational use of natural resources and other legislative acts on forestry;

Specialist in the field of remote sensing of the Earth – Professional education in the field of remote sensing of the Earth or related fields, at least five years in the field of creating space products and providing space services based on the use of remote sensing data, knowledge theory and methodology of creating thematic information products and providing services based on the use of remote sensing data, basics of photogrammetry, cartography, topographic decryption, thematic processing and decryption of remote sensing data, use of remote sensing materials and geo-information systems and technologies in monitoring territories, objects, processes and phenomena.

Surveyor Engineer - Higher education (non-core) - Bachelor's degree and additional professional education - professional retraining programs in the field of geodesy, at least three years in the field of cartography and geo-informatics with secondary vocational education with knowledge of normative-technical and guiding documents in the field of geodetic, land management works and works on the description of the location of the boundaries of objects, coordinate systems used for conducting, methods and technologies for creating reference boundary networks based on ground and satellite geodetic measurements.

GIS Specialist-Higher education (non-core) and additional professional education - professional retraining programs in the field of cartography and geo-informatics, at least three years of professional experience in GIS system, ability to work with general and special purpose software, GIS shells, database management systems, Create and maintain GIS for various purposes and territorial coverage.

Database Specialist - Higher education (non-core) and additional professional education - professional retraining programs in the field of creating spatial databases, proven ability of collection, processing and quality control of spatial and non-spatial information required for inclusion in databases, creation of databases and banks of digital general geographic and thematic information of different hierarchical levels, performing attribute and spatial queries to spatial databases, development of the concept of cartographic products (works), structures and composition of spatial databases, GIS, geoportals, taking into account foreign and domestic experience, work with general and special purpose software, GIS shells, database management systems

Biodiversity specialist – Biology or botany background, at least five years of working experience management and use of flora and fauna, forestry, agriculture or specially protected natural areas in the Republic of Tajikistan or CIS region.