

## TERMS OF REFERENCE

<b>Position:</b>	National Expert on development of virtual tours for 5 pilot Protected Areas (PA)
<b>Project title and number:</b>	"Conservation and sustainable management of key globally important ecosystems for multiple benefits", 00101043
<b>Contract type:</b>	Individual contract
<b>Work location:</b>	Home based with trips to East Kazakhstan, Almaty and Turkestan regions
<b>Duration:</b>	June 2022 - December 2022 (118 working days over a period of 7 months (62 days of home based work and 56 days on trips in Kazakhstan)

### DESCRIPTION OF THE PROJECT:

#### Project scope and background

The total forest area in Kazakhstan is about 12.6 million hectares that makes it one of the most forested countries in Eurasia despite the low level of forest cover, which is only 4.6%. Approximately 95% of the forests (covered areas) of Kazakhstan are managed by 123 State Forestry Institutions, which are supervised by regional authorities (Akimats). There are three main types of forest ecosystems in Kazakhstan: alpine mountain forests, tugai (southern coastal) forests and saxaul landscapes (desert and semi-desert shrubs).

Since 2018, The United Nations Development Programme in Kazakhstan (UNDP), in partnership with the Forestry and Wildlife Committee of the Ministry of Ecology, Geology and Natural Resources of the Republic of Kazakhstan (hereinafter – FWC MEGNR RoK), has been implementing the UNDP - GEF Project "Conservation and sustainable management of key globally significant ecosystems for multiple benefits" (hereinafter – the Project) aimed at the conservation and sustainable management of forest resources.

The objective of the Project is to improve the conservation and management of forest resources and the surrounding grassland, floodplain, and desert ecosystems, which are important for the conservation of biodiversity, land resources, and the local population's well-being. To achieve the Project goal and mitigate certain threats and barriers, the project structure involves working on 3 components:

- **Component 1:** Increasing the representativeness of globally important forest ecosystem biodiversity in the PAs network and improving the effectiveness of PAs management;
- **Component 2:** Promoting the integration of forest PAs into the landscape context by creating conditions for the effective regulation and management of globally significant ecosystems;
- **Component 3:** International cooperation and knowledge management.

As part of interim sub-outcome 2.1. of the Project for pilot PAs (Sairam-Ugam, Kolsai-Kolderi, Katon-Karagai and Tarbagatai State National Natural Parks (SNNP); West Altai State Nature Reserve (SNR)) the Tourism Development Strategies were developed in 2021, which were integrated into the existing PA Management Plans, regional programs/plans for the development of tourism in Almaty, East Kazakhstan and Turkestan regions and other programme documents. In addition, pilot PAs provide for the demonstration of practical approaches in planning of tourism infrastructure, developing of new tourist routes/trails and their arrangement in accordance with the Tourism Management Plans.

In order to provide information support for implementation of the Tourism Development Strategy, as well as development of tourist routes or trails, the Project Work Plan for 2022 includes creation of virtual tours for the above PAs. These works include involvement of the PAs virtual tours development expert.

Involvement of an expert is provided for in the activities of Component 1 of the Project Work Plan for 2022.

## CONTEXT OF REQUIRED SERVICES

### a. Relevance and purpose of required works in the project context

The relevance of work is the need to improve the system of information support for the development of tourism in PAs using advanced information technologies.

### b. Parties concerned:

- The Forestry and Wildlife Committee (hereinafter – the Committee), for the Ministry of Ecology, Geology and Natural Resources of the Republic of Kazakhstan, which is responsible for implementation, control, supervision in the field of forestry, protection, reproduction and use of wildlife and specially protected natural areas;
- Akimats of Almaty, East Kazakhstan and Turkestan regions;
- PAs.

### c. Special aspects of planned work and safety risks:

- Performance of planned work involves processing of images at the expert's location/ place of residence, as well as field trips to East Kazakhstan, Almaty and Turkestan regions to take the land and aero shots. The expert shall be responsible for his/her own safety during field trips to the project areas.

## WORK OBJECTIVE:

- Air and photo surveying on the territory of PAs;
- Processing of obtained images, development of 3D images and aerial panoramic shots;
- Creation of virtual tours for each PA.

## SCOPE OF WORK:

**1. Preliminary study** of the territory of 5 pilot PAs with the use of maps and satellite images (Google Earth, SasPlanet, Yandex map etc.) as well as places where 3D panoramic shots and air panoramic shots have been taken from remotely piloted aircraft.

**2. Collection of additional materials** (photos and descriptions) of tourist destinations to develop pop-up information for 3D and air panoramic shots of the virtual tour.

### **3. Development and approval of the general virtual tour design for 5 PAs:**

1) virtual tour has to be composed of 3D (360°), air panoramic shots (360°) from drone and detailed photographs;

2) the service provider has to present at least 3 virtual tours design options to choose.

**4. Development and approval** of the trip plan and camerawork with the UNDP Project and PAs.

**5. Air and photo surveying** on the territory of PAs according to the schedule of trips below:

1) quantity of land and air panoramic shots:

- Sayram-Ugam: 15 land panoramic shots and 10 air panoramic shots;
- Kolsai Koldery: 10 land panoramic shots and 5 air panoramic shots;
- Tarbagatai SNNP: 12 land panoramic shots and 5 air panoramic shots;
- Katon-Karagai: 15 land panoramic shots and 10 air panoramic shots;
- West-Altai State Nature Reserve: 32 land panoramic shots and 15 air panoramic shots.

*Information on potential survey locations is available at:*

<https://cloud.mail.ru/public/Jsbg/hVDGHRN6C>

2) the survey has to be undertaken on clear days and during the daylight hours with cloud cover not

exceeding 50%;

3) the image size of the equidistant projection of each panoramic shot:

– for land shot: 10240x5120 px;

– for air shot: 15360x7680 px.

*To perform field surveys, the pilot PAs provides a guide to escort at survey places, as well as a horse for horse trails.*

*Expert shall independently find and lease means of transportation within PAs premises.*

**6. Processing** of obtained images, creation of equidistant images – high quality spherical panoramic shots with 360° angle and minimal distortions, preparation of 3D and aerial panoramic shots.

**7. Creation of virtual tours for each PA on general design:**

Virtual tours must have the following functionality:

*1) Main menu for tour management:*

- previous and next panoramic shot;
- zoom in and out of the panoramic shot;
- look up and down, left and right;
- minimized panoramic shot preview;
- launching and stopping auto-rotation;
- opening full screen menu, minimizing menu.

*2) Interactive navigation map of PAs (based on Google map/Open street map/Yandex map).*

*3) The list of panoramic shots with their thumbnails:*

- horizontal or vertical gallery - the list of 3D panoramic shots from which the 3D tour consists.

*4) Skipping between previous and next panoramic shots:*

• arrows or other pulsating icons to switch between the nearest panoramic shots in the virtual tour.

*5) Additional features and elements of virtual tour:*

• icons, pulsating buttons or widgets for additional information on tourist attractions. On a PC the icons have to be able to be activated by pointing or left-clicking the mouse, and on mobile devices by a single tap.

• pop-up windows with text (description, brief description of unique features, main species of natural site's flora and fauna), graphics and photos of additional information on tourist attractions. They have to appear when clicking on the icon with the left mouse button and single tap on mobile devices;

- icons or pulsing buttons to move to websites.

*6) Virtual tour main page design must be approved by UNDP communications specialist. Logos have to be shown on the home page of the virtual tour in accordance with UNDP branding guidelines.* The design of the main page has to be approved by UNDP Communications Specialist:

- UNDP in Kazakhstan;
- Global Environment Facility;
- Forestry and Wildlife Committee of the Ministry of Ecology, Geology and Natural Resources of the Republic of Kazakhstan;
- PAs.

*7) Music and background sound:*

• Music has to be integrated into the 3D panoramic shots of the virtual tours (options to be proposed by the expert). The expert must obtain all copyrights for the music to be used in the virtual tours.

*8) Interface of virtual tour has to be made up in 3 languages: Kazakh, Russian and English. The translation of texts must be endorsed by UNDP.*

*9) Virtual tours must be optimized for Android, IOS and other mobile devices.*

**8. Handing-over the materials of the work performed to the UNDP Project:**

1) virtual tours;

2) 3D and air panoramic shots;

3) scripts to place the virtual tours on the websites.

**EXPECTED RESULTS AND DEADLINES:**

Results	Expected time for task completion	Expected due date	Payment
<p>Performed a preliminary study of the territory of 5 pilot PAs, as well as the locations of 3D panoramic shots and air panoramic shots from remotely piloted aircraft with the use of maps and satellite images.</p> <p>Collected the materials on the objects of tourist routes for the development of pop-up information for 3D and air panoramic shots of the virtual tour.</p> <p>Developed and approved the design of virtual tour for 5<sup>th</sup> PA.</p> <p>Developed and approved with the UNDP Project and PAs the trip and camerawork plan.</p> <p>Submitted an interim work completion report.</p>	20 days (5 weeks from the date of signing the contract)	June 28, 2022	40 %
<p>Performed the air and photographic surveys on the territories of pilot PAs.</p> <p>Submitted an interim work completion report.</p>	65 days (18 weeks from the date of signing the contract)	September 30, 2022	30%
<p>Processed the obtained images, created the equidistant images, prepared 3D and air panoramic shots.</p> <p>Created the virtual tours for each PA providing functionality according to the TOR requirements.</p> <p>Handed over to UNDP Project the materials of the completed work: virtual tours, 3D and air panoramic shots, photographs, scripts for placing on the websites.</p> <p>Provided the final work completion report.</p>	118 days (30 weeks from the date of signing the contract)	December 15 2022	30%
Total:			100 %

**ARRANGEMENTS:**

- During his/her work, the involved expert shall be accountable to UNDP Biodiversity Project Manager and to Environmental Monitoring Expert. All actions related to performance of this work must be coordinated with above persons;
- The involved expert shall not have the right to distribute, transfer data, materials, reports, which have been collected/prepared within the framework of this Terms of Reference, without the UNDP permission;

- The involved expert shall ensure that the actions are planned, implemented and results are achieved in a timely and efficient manner in accordance with this Terms of Reference.

## **WORK DURATION**

### **a. Expected work duration**

Total duration of work performance is 118 working days from the date of signing the contract, tentative period: from June 2022 to December 2022.

### **b. Timeframe for UNDP to review the results with Implementing Partners of the Project, provide comments, approve the results, etc.**

An expert shall provide the materials of work performed to the UNDP Project (to the attention of Project Manager) for comments and approval. The provided materials shall be approved in accordance with the expected results specified in this Terms of Reference within 5 working days by e-mail.

### **c. Special causes of emergency situations and serious consequences of any delays in work performance**

In case of poor quality of work done by an expert, UNDP shall reserve the right to terminate the contract unilaterally. Therefore, the work must be performed in a quality and timely manner, in accordance with the contract requirements.

The UNDP Project shall reserve the right to amend the Terms of Reference without affecting the general nature of work.

## **WORK LOCATION:**

An involved expert performs the work at his/her location. The work includes the trips to East Kazakhstan, Almaty and Turkestan regions (please see the schedule of trips below) to carry out the land and aerial surveys.

## **SCHEDULE OF TRIPS:**

To perform the work scope under this contract, an expert shall travel to East Kazakhstan, Almaty and Turkestan regions in 2022.

A detailed work schedule and trip dates are preliminarily agreed with the UNDP Project Manager, Environmental Monitoring Expert and pilot PAs. Travel expenses of an expert (travel to PAs, accommodation and meals), as well as the costs for renting a vehicle to move around the PAs territory, shall be included in the financial offer when submitting documents for the tender.

A preliminary schedule of trips for the expert is provided below.

### **Schedule of trips/field surveys**

<b>Line item</b>	<b>Route</b>	<b>Number of days</b>
1.	<b>Trip:</b> location of expert – Tarbagatai SNNP (Urdzhar village, East-Kazakhstan region, Urdzhar district)	2
	<b>Field surveys</b> on the territory of Tarbagatai SNNP	7
2.	<b>Trip:</b> Urdzhar village – Ust-Kamenogorsk city – West-Altai SNR (Ridder city, East-Kazakhstan region)	2
	<b>Field surveys</b> on the territory of West-Altai SNR	15
3.	<b>Trip:</b> Ridder city – Ust-Kamenogorsk city – Katon-Karagai SNNP (Katon-Karagai village, Katon-Karagai district, East-Kazakhstan region)	1

	<b>Field surveys</b> on the territory of Katon-Karagai SNNP	8
4.	<b>Trip:</b> Katon-Karagai village – Ust-Kamenogorsk city – Almaty city – SNNP “Kolsai Koldery” (Saty village (Kegen district, Almaty region)	2
	<b>Field surveys</b> on the territory of SNNP “Kolsay Koldery”	6
5.	<b>Trip:</b> Saty village – Almaty city – Shymkent city, Sairam-Ugam SNNP	2
	<b>Field surveys</b> on the territory of Sairam-Ugam SNNP	9
6.	<b>Trip:</b> Shymkent city – location of expert	2
<b>Total:</b>		<b>56 days</b>

*Duration and dates of trips will be specified after signing the contract.*

#### **INSTITUTIONAL ARRANGEMENT (ACCOUNTABILITY AND ENGAGEMENT)**

##### **a. Reporting frequency:**

- all reports shall be sent for approval and endorsement to UNDP Biodiversity Project Manager and an Expert on improving PA management system.
- reports shall be submitted in accordance with the deadlines specified in the section "Expected Results". Upon expiry of the contract and completion of works, the expert, as required and on the terms of the Project team, shall participate in thematic workshops, discussions and meetings;
- reports shall be submitted in Russian in soft copy in doc or docx format. Font - Times New Roman, size - 14, margins - right (1.5 cm), top, bottom (2 cm), left (3 cm), single line spacing, first (red) line indent - 1 cm.

##### **b. Institutions, organizations, persons with whom the service provider will have to communicate, interact and meet during the work**

- during the work, an expert shall meet and interact via formal requests with all target groups on which the work results depend.

#### **QUALIFICATION OF SUCCESSFUL INDIVIDUAL CONTRACTOR**

- Higher technical/humanitarian/natural science education;
- Experience in land 3D and aerial surveying in natural areas;
- At least 3 years of experience in virtual tour development.
- Availability of resources and equipment to perform the work: software for processing the photos and aerial shots, as well as for developing a virtual tour; reflex camera, quadcopter and computer.
- Excellent knowledge of the Russian language. Knowledge of Kazakh language will be an advantage.

#### **QUOTATION AND PAYMENT SCHEDULE**

This contract shall be concluded for a fixed amount that includes salaries, travel expenses and costs for renting a vehicle to move around the PAs.

Payment shall be made in tranches after satisfactory completion of each item of TOR scope of work and approval of the results by UNDP Biodiversity Conservation Project Manager. The quotation must be submitted in the national currency tenge.

In view of this, the expert's quotation must be submitted indicating the lump sum payment according to the following tranches:

	<b>Results</b>	<b>Payment</b>
1.	Tranche 1.	40 %
2.	Tranche 2.	30 %

3.	Tranche 3.	30 %
	<b>TOTAL:</b>	<b>100%</b>

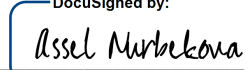
### RECOMMENDATIONS FOR SUBMITTING QUOTATION

The following PDF documents must be attached to your quotation:

1. A duly completed and signed letter from the bidder to UNDP confirming his/her interest and readiness to work as an individual contractor; The financial offer must include all contract costs, with a detailed breakdown of costs according to the attached UNDP form;
2. Detailed CV, including all previous experience and skills relevant to the work, as well as all necessary contact details (email, phone, etc.);
3. Documents confirming Bidder's proficiency (diplomas; certificates of advanced training and certificates of completion, if any);
4. Methods for utilization of any method to implementation of technical specifications

### **APPROVED BY:**

DocuSigned by:  
  
 Signature: \_\_\_\_\_  
 Name and Title: Talgat Kerteshev, Project Manager  
 Date of Signing: 26-Apr-2022

DocuSigned by:  
  
 Signature: \_\_\_\_\_  
 Name and Title: Assel Nurbekova, Programme Analyst of Energy and Environment Unit  
 Date of Signing: 27-Apr-2022