Attachment-A: Project Document

AFoCO Project Document

Project code	[AFoCO/028/2022]

Project Profile			
Project title	**Pilot project on inventory of unaccounted forests in Kostanay and North Kazakhstan regions and automation of information collection on forestry**		
Project duration	Estimated start date: March, 2022 Estimated end date: February, 2026		
Implementing Agency	Kazakhstan Forestry Enterprise, Committee of Forestry and Wildlife		
Participating countries	Kazakhstan		
Project site	North Kazakhstan and Kostanay regions		
Main objective	1. To conduct identification and mapping pilot inventory of the unaccounted forests in Kostanay and North Kazakhstan regions 2. To develop a fully functional digital program (software) on forest data management		
Target Area[1]	Primary Target Area 3: Introducing systematic management on forest-related disasters		
Budget and source of finance	Total: US$ 1,243,807 - AFoCO: US$ 953,277 - National: US$ 290,530		
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[1] Refer to the list of target areas in accordance with the objectives and prevailing strategic plan of AFoCO (provided by the Secretariat)

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[Attachment-A]

SUMMARY

The last state forest fund inventory (2019) observed that Kostanay and North Kazakhstan regions have notable amount of unaccounted forests, particularly nearby state forests. According to the preliminary estimation, there are more than 300 thousand hectares of unaccounted forests in the country. They are located on the adjacent territories to the state forests, or on the lands of the state reserved lands or private land users. Since these forests are not included in the State Forest Fund, they are not protected from fires, illegal logging pest attacks and diseases and the valuable ecosystem services of these forests such as carbon sequestration and water regulation are not counted countrywide. Due to these unfavorable factors, the areas of these forests tend to decrease or be degraded. . Therefore, there is a need for a pilot project to conduct accounting of unaccounted forests in Kostanay and North Kazakhstan regions which has not been done before so that inventory of unaccounted forests across the whole country in the future can be carried out in the future., since accounting of the unaccounted forests have not been conducted before.

Along with the presence of unaccounted forests, there is a need for the effective data management of the state forest fund in the country. The functions of management, inspection, accounting, and analysis performed by the managers and specialists of the Committee and its territorial agencies, forestry entities, and other forest owners across the country. These management functions are associated with the processing, transmission and storage of large amounts of information, which determines the need to create a system. At present, the collection and storage of primary data on forests and their processing for the compilation into statistical reports is carried out manually on paper at all levels of forest management. Only the state accounting of the forest fund and cadaster and the accounting of forest restoration measures are carried out digitally (automated). The rest of the management data and accounting reports are carried out on paper. This factor causes inefficiency as the same documents filled out by different personnel can have unintentional mistakes, which can eventually end up in the statistical form. Often the same values (indicators) on forest appear in different forms, which also require time to fill out and also can be affected by the mistakes. All these factors, in turn, result in excessive working time spent to carry out the manual work, extra communication between forest departments and forest owners, and business trips. Therefore, it became necessary to develop a digital program that would unite all levels of reporting data on forest management starting from the most primary from across the country up to compiled data at the governmental level, since the data on the forest is crucial for forest management decision making. The most important feature of the digital program needs to be its automatic formation of a database and reporting data and statistical forms to establish effective data management in forestry.

The inventory of the unaccounted forests will provide actual information on the existing forests in Kostanay and North Kazakhstan regions. The project will provide a basis for further actions to transfer unaccounted forests to state forest fund or to private forest fund, which does not exist in the country. This, in turn, can contribute to increasing the total forest cover countrywide and assist to achieve the goal of 5% forest cover by 2030 adopted in the Ministerial Roundtable on Forest Landscape Restoration under the Bonn Challenge in 2018, Astana, Kazakhstan. Establishing protection on the unaccounted forests will allow strengthening control over fires, illegal logging, which will ultimately contribute to the conservation of biodiversity, increasing carbon sequestration and other ecosystem services of the forests.

While the automated program on forest data management will be an important tool to effectively coordinate and synchronize the forest data, which in turn, will assist in proper decision making and actions on forest conservation.

All the subdivisions of the Committee and local forest entities will operate forest data timely and efficiently using personal computers only. The up-to-date forest data will be readily available in the cloud to all the parties that have access anytime, and the data will be stored for a long period, which will favor the Principles of forest legislation of the Republic of Kazakhstan according to the Article 3 of the Forest Code (availability of information on the state of the forest fund).

In order to achieve the goals, the the project is aimed at determining the amount, area, and locations of the uncounted forests and their characteristics and condition in Kostanay and North Kazakhstan regions, creating a map of the uncounted forests, analyzing forest data documentation, designing a program on data processing across the forest management institutions, training staff in all management institutions to use the developed program.

At the first stage, preparatory work which include analysis of satellite images will be carried out to determine unaccounted forests, primary documents on forest management to be integrated in the automated program. At the second stage, field trips will be carried out for actual inspection of the predetermined unaccounted forests and the development of the digital program with testing and training of key specialists who will work with the program.

SECTION A. PROJECT CONTEXT

1. Background

Central Asia comprises of five predominantly agricultural countries of the former Soviet Union (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan) that, although largely covered by drylands, are home to diverse and important forest ecosystems, ranging from continuous forests in the higher-rainfall upstream areas to patchy riparian forests in the more arid downstream areas. Notwithstanding their relatively small coverage area, forests in Central Asia play a key role in the regional hydrology by helping maintain a steady river discharge from the high mountains to the irrigated lowlands[4]. Mountainous forests are particularly rich in terms of the genetic diversity of wild fruit and nut tree species and serve as carbon sinks.
Given their great ecological and environmental importance, most of the forests in Central Asia have been placed in Group I of the Soviet Union forestry system, which is designated for conservation and protection. However, following the collapse of the Soviet Union, regular and standardized forest inventories have stopped, with the effect that the status and condition of these forests is currently uncertain.
Kazakhstan is a low-forested country. The total area of the State Forest Fund is currently 30 million hectares and occupies 11% of the territory of the country. Forested lands occupy 13.1 million hectares or 4.8% of the territory of the country.
The main forest policies in forestry sector are related to permanent expansion of forest cover, conservation of biological diversity of forests, rational, continuous, sustainable use of forest resources.
The Instruction for Forest Inventory (hereinafter - the Instruction) was developed in accordance with subparagraph 18-11) of paragraph 1 of Article 13 of the Forest Code of the Republic of Kazakhstan dated July 8, 2003 (hereinafter - the Forest Code) and the Rules for maintaining state accounting of the forest fund, state forest cadastre, state monitoring forests and forest management on the territory of the state forest fund, approved by the order of the Acting Minister of Agriculture of the Republic of Kazakhstan dated February 27, 2015 No. 18-02 / 163 (registered in the Register of state registration of regulatory legal acts No. 11387).
As per Article 55 of the RK Forest Code, forest management activities focused on forest resources accounting, territorial arrangement of the forest fund, including the State Forest Estate demarcation, state forest monitoring, forest management planning and forest utilization, shall be a state monopoly, and are commissioned to the Kazakh Forestry Enterprise.
Meanwhile the afore-mentioned accounting activities cover the forest fund lands only. However, there is a significant amount of forests, which are not counted as forests (unaccounted forests) and not included in the state forest fund. One of the reasons for the presence of the unaccounted forests was the transfer of the territories of the state forest fund for subsidiary agriculture of industrial enterprises in the past to develop farming in the country after the Soviet Union collapse. This phenomenon can also be observed in other central Asian countries. Due to the lack of finances during the crisis after the independence, inventory and transfer of unaccounted forests have yet to be pursued by the Government.
Gleaning from the last state forest fund inventory in 2019, it was observed that Kostanay and North Kazakhstan regions have notable amount of unaccounted forests, particularly nearby state forests. However, these regions are not listed in the State Forest Fund, and are not managed consequently. In order to achieve Principles of the Forestry Code of the Republic of Kazakhstan such as sustainable development of forests (constant increase in forest cover of the territory of the Republic of Kazakhstan), conservation of biological diversity of forests, objects of the state natural reserve fund, cultural and natural heritage, state regulation, control and supervision in the field of protection, protection, use of the forest fund, reforestation and

afforestation, the immediate conduct of inventory of unaccounted forests in Kostanay and North Kazakhstan regions is imperative.
Such effort can serve as a model in further pursuing similar inventory activities in the rest of the Country. Likewise, it will provide opportunities to plan and manage unaccounted forests to increase the efficiency of forestry, implement a unified scientific and technical policy in forestry, ensuring the rational use of forest resources, forest protection, and conservation activities, among others.
Despite its importance there were no projects conducted yet on inventory of unaccounted forests in the country, mainly because of budget limitations from the government. Since Kazakhstan's territory is big, most of the budget goes to the protection of existing forests from forest fires, pests and diseases. Moreover, about 70% of the country is considered as degraded. Hence, planting trees on the uncovered lands of state forest fund put a lot of pressure on the entire national budget.
Recent data show a small annual decline in area of forest and other wooded land between the last Soviet inventories. However, there are many problems with data quality, as well as of comparability with the 1988 data, so it is not possible even to make estimates of trends over the period. This is a typical situation not only in Kazakhstan, but also in whole Central Asia.
On the other hand, the functions of management, inspection, permitting, accounting, and analysis of forest data are being performed by the managers and specialists of the Committee and its territorial agencies, forestry entities, and other forest owners across the country. These management functions are associated with the processing, transmission and storage of large amounts of information, which determines the need to create a system. At present, the collection and storage of primary data on forests and their processing for the compilation into statistical reports is carried out manually on paper at all levels of forest management. These factors cause inefficiency in forest management including appropriate and timely decision-making process. Therefore, it became necessary to develop a digital program that would unite all levels of reporting data on forest management starting from the most primary from across the country up to compiled data at the governmental level, since the data on the forest is crucial for forest management decision making.

2. Conformity with AFoCO's Objectives and Strategic Priorities

The project is supporting AFoCO Priority Areas 3: Introducing systematic management on forest-related disasters. The inventory of the unaccounted forests will provide relevant information on the existing forests in Kostanay and North Kazakhstan regions. This opportunity in turn, can contribute to increasing the total forest cover countrywide and assist to achieve the goal of 5% forest cover by 2030 of the country. The completion of accounting of forests in the said regions is considerable enough to contribute to the reporting of increase in forest cover. Hence this can be considered as an addition to the initial 3% target of the world by year 2030. Moreover, beneficial forest ecosystem services such as carbon sequestration, carbon substitution, and carbon conservation can contribute to climate change mitigation countrywide, which align with the objectives of AFoCO to implement Paris Agreement on climate change. Climate change presents significant potential risks to forests and challenges for forest managers. It also increases the potential consequences of many existing challenges associated with not only environmental, but also social or economic change.
Adaptation to climate change involves monitoring and anticipating change and undertaking actions to avoid the negative consequences and to take advantage of potential benefits of those changes.
Managing forests will prevent or early detect forest fires which are occurring often due to climate change that create warmer, drier conditions, increased drought, and a longer fire season

are boosting these increases in wildfire risk. Deforestation, forest degradation and other changes in forests contribute an estimated 17.4% of global greenhouse gas emissions. Proper forest land use and forest management do affect wildfire risk occurred by climate change. The extent to which they do so is a function of their management and the effectiveness of policies at the local levels.

The automated program on forest data management will be an important tool to effectively coordinate and synchronize the forest data, which in turn, will assist in proper decision-making and actions on forest conservation and climate change adaptation measures.

3. Regionality

The project has both regional and transboundary significance. Since unaccounted forests are located in the Kostanay and North Kazakhstan regions, which directly border the Russian Federation. The results of the inventory will also facilitate discussions with regards to perennial transboundary issues such as the emergence of pests and diseases in the bordering areas especially within the Russian Federation forests. In the same manner, determining and further establishment of protection on the unaccounted forests will also allow strengthening international coordination on the management and control of other transboundary problems such as wild fires, illegal logging, pests and diseases and biodiversity loss between Kazakhstan and Russia.

Same challenges exist in other Central Asian countries. For instance, a recent remote sensing-based inventory in Kyrgyzstan "discovered" 700,000 ha of forest (international definition) outside the State Forest Fund. (UNECE). After 1988, the first National Forest Inventory in Kyrgyzstan was carried out in 2008-2010, showed that forest is growing on all land categories, not only on the State Forest Fund and land of protected areas. The latter were the only areas inventoried under the USSR system, under which forests on other lands were not taken into account.

In Tajikistan there has been no national forest inventory since independence, and the data are based on partial "forest accounts" compiled by forest managers, supplemented by projections and estimates as data over time are probably not comparable, it is not possible to analyse trends in the area of the forest resource of Tajikistan. Similarly, in Turkmenistan since 1988 no comprehensive forest inventory has been carried out. The country started discussion on conducting forest inventory since 2014, which is still under process. In the case of Uzbekistan no modern forest inventory has been carried out for over 20 years. Hence, proposed project can build up best practices and knowledge on forest inventory, which can further be shared with other Central Asian countries that haven't done inventory of forests as well as unaccounted forests.

Good practices and lessons that will be uncovered through the project will serve as opportunities for regional knowledge exchange to complement with similar projects from other Central Asian countries. Thus, further improvement of the inventory methods and exchange of information may likely to happen in the near future.

4. Information on project target area (*Geographic information, Environmental information, Socio-Economic information)*

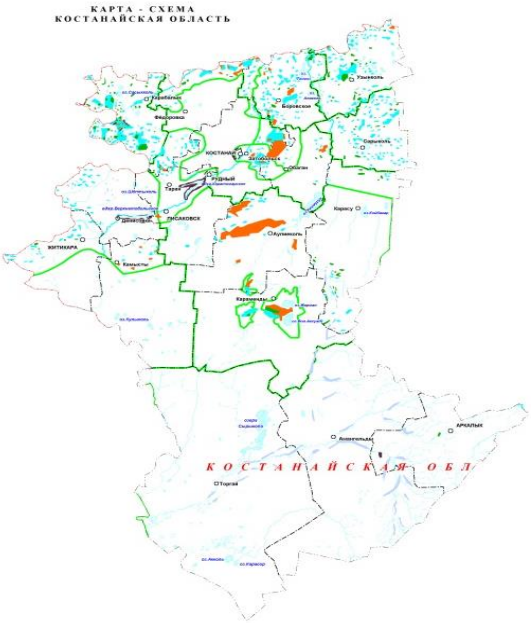
Kostanay region is located in the north of Kazakhstan. Its area exceeds 196,000 km2 (or 19,600,000 ha). In the north and north-west, the Kostanay region borders with the Russian Federation.

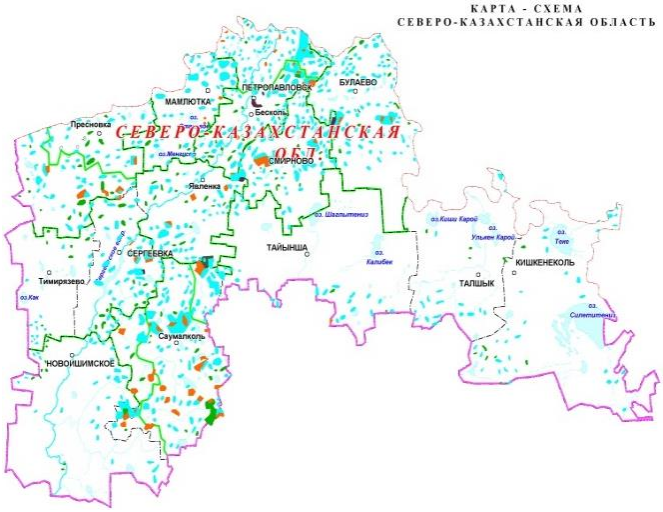
The main natural features of the Kostanay region are determined by its inland position at the junction of the Urals, Western Siberia and Central Kazakhstan. The variety of geomorphological, climatic and soil-plant conditions on the territory of the region determines

the variety of landscapes related to natural zones well expressed in the latitudinal direction - forest-steppe, steppe, semi-desert (deserted steppes and steppe deserts). The forest-steppe on the territory of the region occupies small areas, where birch and aspen-birch groves alternate with meadow and rich herb-feather grass steppes. To the south, on the territory of the region, there is a "grove steppe", where small forests grow in the steppe spaces in depressions, in the center of which willow thickets or sedge bogs develop. The area of farmland is 18, 129.3 thousand ha including arable land – 6,087.9 thousand hectares. The state forest fund of the Kostanay region is 1 million 144 thousand hectares (only 242.2 thousand ha is covered with forest, 1.2% of the region). The regional akimat is in charge of 455,886 hectares of forest resources (the rest of the forest resources are of republican subordination). The rest of the forest fund lands are represented by non-forest lands (arable land, hayfields, pastures, roads, glades, etc.). According to earlier observation of 23km², there were initially identified 11.5 thousand ha of unaccounted forests. However these should be verified.
The population of Kostanay as of 1 January 2020 is 868,549 people. More than a hundred nationalities and ethnic groups live on the territory of the region: Kazakhs - 41.18%, Russians - 40.71%, Ukrainians - 8.08%, Germans - 3.10% and others. Population density: 4.5 people per square kilometer. Socio-economic development trends in 2018 was growth increase in all sectors of the economy, but mainly: in agriculture - due to crop yields, industry - due to the implementation of new investment projects and other sectors. GRP per capita in 2019 was 2,815.9 thousand tenge.

North Kazakhstan region is located in the north of Kazakhstan, and occupies the southern edge of the West Siberian Plain and part of the Kazakh Upland. The territory of the region is 97,993 km² and is 3.6% of the territory of Kazakhstan. The region is characterized by a relatively flat landscapes. The climate in the regions is sharp-continental with hot and dry summers and harsh freezing winters. Frequent repetition of cyclonic activity determines relatively large amount of atmospheric precipitation. Among total 689,6 thousand hectares of State Forest Fund, 540.4 thousand ha covered by forest (accounted forests only) which is 5.5% of the total area of the region. The region is located within the forest-steppe and steppe zones. In the forest-steppe, the southern forest-steppe and the split forest-steppe are distinguished. The southern forest-steppe represented by a combination of birch and aspen-birch forests on gray forest soils and malts with forb-cereal meadow steppes on leached chernozems and meadow-chernozem soils; sedge bogs are found, sometimes with willow thickets. Kolochnaya forest-steppe occupies most of the North Kazakhstan region. Aspen-birch outcrops form sparse woodlands on solods. Forb-feather grass steppes prevail on ordinary chernozems, mostly plowed. North Kazakhstan region has a steady population decline, its population has decreased by almost 40% since 1989 from 873 thousand to 554 thousand people. This region has the largest percentage of the predominantly Slavic population and the smallest percentage of the Kazakh population in the country. The land fund of the North Kazakhstan region is - 9804 thousand hectares incl. agricultural land - 7342 thousand hectares - (73% of the land fund of the North Kazakhstan region) of which: arable land - 4944 thousand hectares, pastures - 2083 thousand hectares, lands of settlements - 1004 thousand hectares, land for industry, transport, etc. - 65 thousand hectares, lands of specially protected natural areas. - 135 thousand hectares, forest land - 540 thousand hectares, water fund lands - 143 thousand hectares, reserve land - 570 thousand hectares, including arable land - 10 thousand hectares, deposits - 31 thousand hectares, pastures - 3336 thousand hectares. Based on early observation of 850km² area, initially identified 8.5 thousand ha of unaccounted forest land. However these should be verified.
The amount precipitation in both regions is about 330-340 mm per year. The forests in the two regions are represented by scattered forests growing in a steppe zone in medium and small

patches (forest outliers) (Fig.1a,b). North Kazakhstan and Kostanay regions are in the top five in terms of the area of coniferous, soft-leaved and hard-leaved species as can be seen from Table 1. At the same time, it is important to note that the forests of these two regions are highly fragmented. This has led to the fact that some forest patches were included into the State Forest Fund historically, and other parts were not partly due to a considerable distance between the patches. The last state forest fund inventory (2019) observed that Kostanay and North Kazakhstan regions have notable amount of unaccounted forests, particularly nearby state forests.





Map 1 a. Kostanay region Map 1 b. North Kazakhstan region

SECTION B. RATIONALE AND OBJECTIVES

1. Rationale

1.1. Stakeholder analysis

2. *Table 1. Stakeholder analysis*

Stakeholder group	Characteristics	Problems, needs, interests	Potential benefits	Involvement in the project
Primary stakeholders				
Forestry and Wildlife Committee of the Ministry of Ecology, Geology and Natural Resources of the Republic of Kazakhstan	State body and department, carrying out implementation, control and supervisory functions in the field of forestry, protection, reproduction and use fauna and specially protected natural areas. The Committee is a main management and implementation political/governmental body.	**Problem:** Acknowledges the existence of unaccounted forests and their degradation, inefficiency of forest data management; Not having actual information on forests, unintegrated data processing and use due to lack of financial resources and inadequate knowledge and skill of technical staff. **Needs, Interests:** Financial resources in order to identify and to do inventory of unaccounted forests; Possessing actual information on forests and further actions to include unaccounted forests. Capacity building of central and local forestry institutions and technical staff	Unaccounted forests will be identified and further included in the State Forest Fund for appropriate management in accordance with the Forest Code of the Republic of Kazakhstan.	Control and assess the outputs and outcomes of the project

		to address forest data mismanagement.		
State enterprise "Kazakh Forestry Enterprise"	The enterprise maintains state records of the forest fund. Its purpose is to provide state bodies, interested legal entities and individuals with operational information about the state and dynamics of the republic's forest resources. Accounting documentation is updated once every five years, in the interval between five-year periods, an annual accounting of the forest fund is carried out according to Form No. 1 (data on areas).[2]	**Problem:** Reliability of achievement assessment of the national target to increase the forest coverage is based on the data of the annual state accounting of the forest fund. However, Enterprise facing lack of actual data on unaccounted forests, unintegrated data processing and use due to lack of financial resources and inadequate knowledge and skill of technical staff. **Needs, Interests:** Financial resources are needed to solve the problem. Particularly capacity building of technical staff to address forest data mismanagement.	Enterprise will benefit in terms of obtaining exact number of unaccounted forests in to regions and application of digital data management system throughout the country. Capacity of staff will also be increased through trainings.	As a main executive body, the Enterprise will be responsible for accomplishing and implementation of the project and will be the main user and further maintenance body of the final product
Regional forestry and	Governmental management bodies at	**Problem:** bordering with	Regional forestry	Assist to accomplishing

[2] https://kazlesproekt.wordpress.com/o_nas/

wildlife departments of Forestry and Wildlife Committee as well as protected areas and local forestry entities	local level as well as land managers of the State Forest Fung	unaccounted forests that causes potential spread of forest fires and pests and diseases; Inefficient primary data processing and delivering. **Needs, Interests:** Financial resources; Capacity building of technical staff to address forest data mismanagement.	departments will gain experience on doing inventory of unaccounted forests and will be involved in all field work including data collection and management	the project and use the final outcome. Provide primary information needed for the project.
Secondary stakeholders				
Aerial and satellite image supplier "National Company "Kaz Garysh Sapary (KGS Space Technologies)" [3] (**Attachment 1**)	The National Company Kazcosmos with 100% state participation in the authorized capital was established on March 17, 2005. On August 2, 2007 the company was renamed into Joint Stock Company "National Company" Kazakhstan Qarysh Sapary". The company ensures the attraction of orders and their distribution among its subsidiaries and dependent organizations, created by product areas and functions.	**No specific Problems or Needs** **Interest:** The quality management system of the Company is certified for compliance with the requirements of the international and Kazakhstan standards	As a provider of images, the company will benefit mostly in financial resources.	1. operation of remote sensing data and provision of remote sensing data; 2. operation of the ground infrastructure of the high-precision satellite navigation system, provision of navigation services.
Local population	Directly or Indirectly related to the forests	**Problem:** bordering with unaccounted	Forest products, ownership	After the completion of the project

[3] https://www.gharysh.kz/aboutKGS3/

		forests that causes potential spread of forest fires and pests and diseases; **Needs, Interests:** Legally manage forests (ownership) and get benefit from forest resources	of forest land	identified unaccounted forests can be transferred to the local communities for their management and use

2.1. Problem Analysis

Without having a forest inventory/monitoring system in place it is not possible to quantify the consequences of actual or potential forest loss or degradation for the protective functions, in terms of erosion, soil loss, increased salinity, accelerated desertification, increased sandstorms etc. Such quantification, either in physical or economic terms would provide substantial information for policy discussions on the resources which should be made available for forest protection.

Poor land management in the past had led to the existence of unaccounted forests. Lack of finances, forest regulations and government policies on managing unaccounted forests further contributed to presence of them over time. They are located on the adjacent territories to the state forests, or on the lands of the state reserved lands or private land users. Since these forests are not included in the state forest fund, they are not protected from fires, illegal logging pest attacks and diseases. Therefore, due to these unfavorable factors, the areas of these forests tend to decrease or degrade. These factors also negatively impact local biodiversity. As a result, the valuable ecosystem services of these forests such as carbon sequestration and water regulation are not counted countrywide. Inventory and accounting of unaccounted forests and their further transfer to state or private forest funds will increase forest cover countrywide reported internationally.

Various factors including climate change have degraded or even destroyed the forests of the country, in many different ways, and to different extents. It is not possible at present to quantify or map this damage, degradation and deforestation, because of the lack of recent inventories. The study on the state of forests in the Caucasus and Central Asia conducted by UNECE in 2018 clearly emphasizes needs and importance of improvement of forest inventory. It concludes to improve the information base for sustainable forest management, by implementing comprehensive and accurate forest inventories, repeated at regular intervals, as well as surveys of forest health and vitality, monitoring supply of wood, other goods and services, as well as employment and livelihoods in the forest sector.

Much attention to carry out a modern forest inventory is inevitable, so that the major problems can be demonstrated and quantified in the country.

On the other hand, there are also major gaps in information on the forest resource while there are efforts to produce regular report on the dynamics of the Forest Fund land (annual) and the account of Forest Fund land (once in 5 years). The report is carried out under the management of the Forestry and Wildlife Committee, by the Kazakh forest inventory enterprise. The methodology for conducting this work is based on methods developed and applied during the USSR period, and does not use sample plots. Despite the existence of national forest accounts,

data for Kazakhstan are based on a desk study and have many gaps. Right data on forests is crucial for forest management decision making. The collection and storage of primary data on forests and their processing for the compilation into statistical reports today is carried out manually on paper at all levels of forest management. Many developed countries manage forest data digitally using modern software, which forestry sector in Kazakhstan lacks. This causes inefficiency as the same documents filled out by different personnel can have unintentional mistakes, which can eventually end up in the statistical form. All these factors, in turn, result in inefficient forest data management reflected in excessive working time spent to carry out the manual work, extra communication between forest departments and forest owners, and business trips, loss of old forest data. Additionally, the absence of digital platform results in poor integration and interaction between forest entities and administrative bodies at different levels and forest data loss over time. This forest data mismanagement can eventually negatively impact proper decision making in forestry.

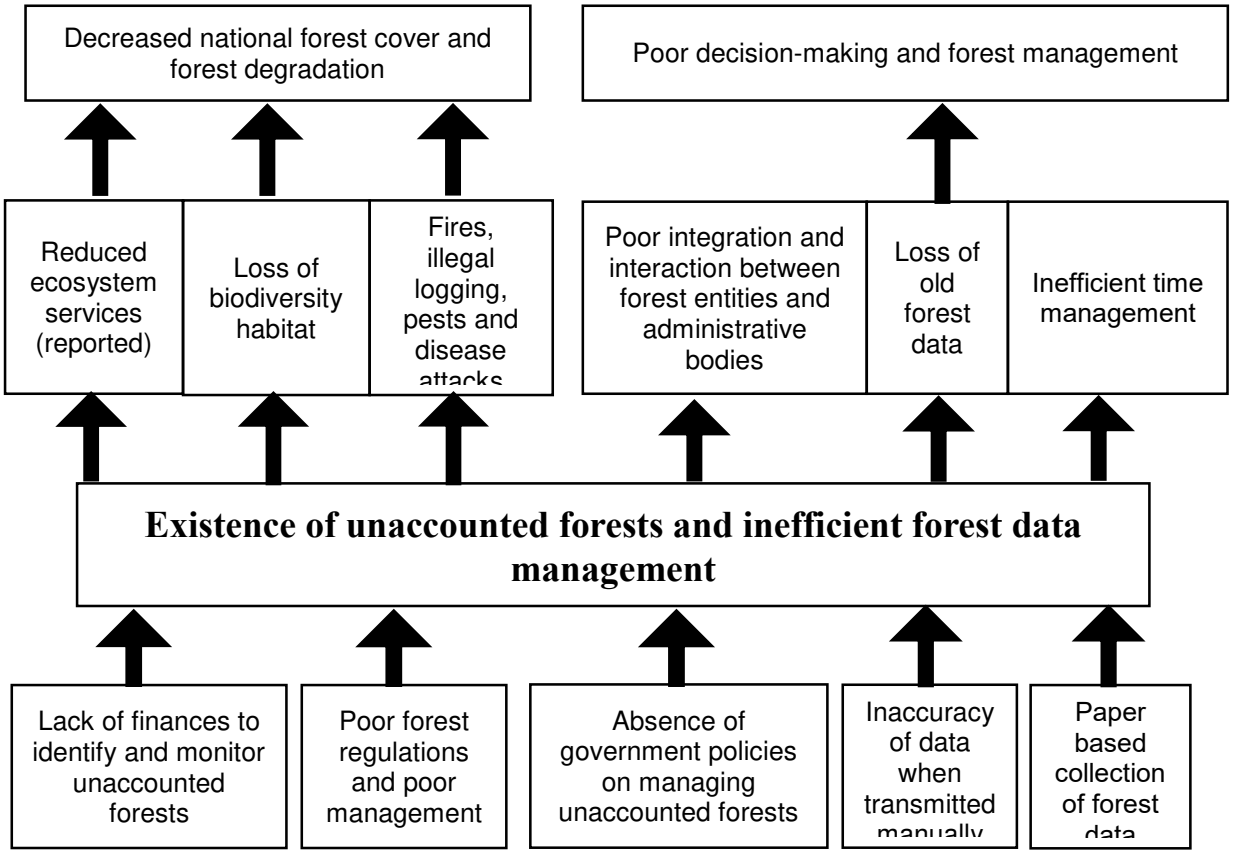


Figure 1. Problem tree

1.3. Logical framework matrix

Table 2. Logical Framework Matrix

Output/ Activities	Narrative	Objectively Verifiable Indicators (OVIs)	Means of Verification (MoV)	Important Assumptions
Goal: Forest management of Kazakhstan is improved in terms of forest accounting and data management contributing to protection and conservation including regulatory procedures five (5) years after the project.				
Outcome 1: Accounting of forest fund in Kostanay and North Kazakhstan regions are completed, analyzed, properly documented and shared as model/template for nationwide inventory by the end of the Project				
Objective 1: To conduct identification and pilot inventory of the unaccounted forests in Kostanay and North Kazakhstan regions by the end of 2025				
Output: 1: Unaccounted forests in Kostanay and North Kazakhstan regions are identified through data analysis and inventory to be included to the State Forest Fund				
Output 1.1. Project Team to coordinate the project is established				
Activity 1.1.1	Conduct in-house consultation on establishment of Project Team (PT)	One (1) in-house consultation conducted on project document of the PT in Q2 of project Y1 with at least ten (10) participants	- Meeting report including initial identification of PT members/composition Photos of the meeting with at least ten (10) participants	- Timely conduct Inception Meeting
Activity 1.1.2.	Develop and issue a ToR for Project Team on their functions and tasks	- One (1) ToR of PT finalized and issued by KFE Head by the end of Q2 of Y1	- ToR for PT consisting of (6) people (Project Manager, Project Coordinator, Two experts, Assistant)	- Changes in service fee due to currency exchange
Activity 1.1.3.	Conduct project orientation meeting with the PT	One (1) orientation meeting with at least five (5) people conducted by KFE with PT at end of Q2 of Y1	- Meeting report with agreements/arrangements	- Cold weather conditions
Output 1.2. In-house collected baseline data analyzed and digital images procured				
Activity 1.2.1.	Procure equipment required to conduct	In Q2 purchased equipment and software required for project implementation	- Three (3) laptops - Three (3) MapInfo Software	- Price changes

	activities for data collection/validation			
Activity 1.2.2.	Conduct in-house preparatory work through collection of baseline data	In Q2 all existing secondary data such as schemes, analog maps, reports, documents, policies collected by KFE staff and PT through desk work and internal consultation. (The content of the preparatory work includes the clarification of the existing boundaries of the object being arranged and the preparation, if necessary, of proposals for their change, the collection of geodetic, planning - cartographic and inventory materials of the previous forest management, an assessment of the completeness, condition and possibility of their use and methods of taxation, drawing up a project for a quarterly network or adjusting it during re-forest management. The main work during the preparatory work is to decipher the images.)	- One (1) consolidated package of existing data - Plan for field inventory	- Presence of full support from all staff
Activity 1.2.3.	Analyze collected data	One (1) consolidated report of analysis on status of accounted forests analysed based on existing secondary data by KFE and PT by Q2, Y1 through desk work.	- Consolidated report/maps on the analysis	
Activity 1.2.4.	Procure images from the satellite image supplier (KGS Space Technologies)	Package of necessary satellite images of the region purchased from the relevant agency by KFE by Q2 Y1 through G to G transaction	- Signed contract with satellite image supplier - One (1) package of satellite images	- Geospatial information is available and accessible - Cost changes

Activity 1.2.5.	Procurement of equipment required to conduct activities for data processing and coding	Necessary equipment procured during by KFE through open tender by the end of Q2 Y1	- Four (4) MapInfo Software - Four (4) Laptops - Four (4) Tablets - Four (4) Desktops - One (1) Photo copiers - One (1) Plotter - One (1) Scanner	- Price changes
Output 1.3. Project stakeholders consulted through the meeting both in Kostanay and North Kazakhstan				
Activity 1.3.1.	Conduct consultation meeting with relevant local forestry agencies and stakeholders in Kostanay	One (1) consultation meeting conducted by KFE and PT with forestry agencies and at least 20 (twenty) local stakeholders by Q2 Y1	- Meeting report including stakeholders' mapping	Willingness of local governments and agencies to participate in the project and identify unaccounted forests
Activity 1.3.2.	Conduct consultation meeting with relevant local forestry agencies and stakeholders in North Kazakhstan	One (1) consultation meeting conducted by KFE and PT with forestry agencies and at least 20 (twenty) local stakeholders by Q3 Y1	Meeting report including stakeholders' mapping	
Output 1.4: Existing analyzed data validated in both Kostanay and North Kazakhstan regions				
Activity 1.4.1.	Collection of baseline data from relevant agencies and local stakeholders in two regions for validation and further analysis	Data collected by KFE, PT together with at least five (5) local experts of local forestry agencies (leshoz) and key informant from each regions in Q2 and Q3 Y1	- Final package of analyzed/validated data consolidated in one (1) report as baseline data	- Presence of full support from all involved local stakeholders
Output 1.5: Field inventory conducted in Kostanay and North Kazakhstan regions				
Activity 1.5.1.	Conduct field inventory and validation in identified unaccounted forests	Field inventory / validation conducted in both regions covering at least 20,000 hectares by KFE and PT in Q2 of Y2 and Q2 Y3 through unified system set out in the Rules of state accounting of	- Field inventory/validation report from each region	- Weather conditions

		the forest fund, state forest inventory, state monitoring of forests and forest management on the State Forest Estate territory.		
Output 1.6: Data processed in Kostanay and North Kazakhstan regions				
Activity 1.6.1.	Map demarcation of identified unaccounted forests with special code and territorial arrangement	Unaccounted forest demarcated/mapped and coded by KFE and PT by throughout Y3 and Y4 following the Forest Instruction Manual, the Mapinfo Professional, Carry Map, SOLI_N user manuals, as well as Growth Progress Tables (each unaccounted forests demarked, codes given and forest agencies near forests identified to further manage)	- One (1) packaged map with demarcated forests, schemes of forests and images	- Presence of full support from all staff
Output 1.7: Report on inventory of unaccounted forests in Kostanay and North Kazakhstan				
Activity 1.7.1.	Develop project report including further forest management planning and forest utilization	Project Report submitted to relevant agencies and AFoCO Secretariat by KFE Head based on the report requirement.	- Final/Signed Project Report(s)	- On time translation
Objective 2: To develop a fully functional digital program (software) on forest data management				
Outcome 2: Digitalized data management system installed and launched in all forest agencies/institutions				
Output 2: Digital data management program implemented and integrated for data processing across the forest management institutions				
Output 2.1: Project Team for data management program established				
Activity 2.1.1.	Conduct in-house consultation on establishment of Project Team (PT)	One (1) in-house consultation conducted on project document of the PT in Q2 Y1	- Meeting report	- Timely conduct Inception Meeting

Activity 2.1.2.	Develop and issue a ToR for Project Team on their functions and tasks	One (1) ToR of PT finalized and issued by KFE Head by the end of the Q2 Y1	- ToR for the project team	- Changes in service fee due to currency exchange
Activity 2.1.3.	Conduct project orientation meeting with the PT	One (1) orientation meeting conducted by KFE with PT end of Q2 Y1	- Meeting report with agreements/arrangements	- Cold weather conditions
Output 2.2: Baseline data collected and analyzed				
Activity 2.2.1.	Conduct in-house preparatory work through collection of baseline data	All existing secondary data such as reports, documents, policies and data forms and their processing collected by KFE staff and PT through desk work by Q2-3 Y1	- One (1) package of collected documents	- Presence full support from all staff - Good internet connection and electricity supply
Activity 2.2.2.	Conduct field visit for collection of baseline data from other *leshoz*	All collected secondary data such as reports, documents, policies and data forms and their processing collected by leshoz staff, KFE staff and PT through desk work by Q2-Q3 Y1	- One (1) package of collected documents	
Activity 2.2.3.	Analyze collected data	One (1) consolidated report of analysis on status of accounted forests analysed based on existing secondary data by KFE and PT by Q3 Y1 through desk work.	- Consolidated report on the analysis to verify data of accounted forests	
Output 2.3 Software for data management is procured				
Activity 2.3.1.	Hiring and coordination with selected IT company	Hired IT company through open tender and conducted series of meetings with selected IT company and prepared ToR in Q2 Y1 by KFE	- Signed contract including ToR - Meeting report	- Changes in service fee
Activity 2.3.2.	Installation and pilot test run of software	Software installed (including test run) by the IT company based on contract and specification during the Q3 of Y1	- Inspection report duly signed by relevant office	- Price change

Output 2.4: Stakeholders consulted through workshop				
Activity 2.4.1.	Study of data requirement through consultation workshop	Relevant information and potential obstacles are collected through workshop by PT covering at least twenty (20) stakeholders by Q4 Y1	- Workshop report at the end of the workshop	- Weather condition - COVID-19 situation
Output 2.5. Existing collected baseline data processed and draft version of data platform developed				
Activity 2.5.1.	Development of digital platform/program	Baseline data and suggestions integrated in developed platform through one (1) data management system from Q1 of Y2 to Q1 Y4	- Platform/software data management system	
Output 2.6. Developed digital data management program is field-tested				
Activity 2.6.1.	Testing of developed program/platform in the provincial level	Accurate data processing is pilot tested through field data validation in one province in Q2-3 Y2 and Q2-3 Y3	- Validation report and test results to verify status of data management system installation	- Technical errors or electricity problems
Activity 2.6.2.	Testing of developed program/platform in the regional level	Accurate data processing is pilot tested through field data validation in one region in Q2-3 Y2 and Q2-3 Y3	- Validation report and test results	
Output 2.7. Digital data management program users' manual developed together with the Committee of Forestry				
Activity 2.7.1.	Consultation meeting in the Committee of Forestry and Wildlife for the preparation of the users' manual	At least one (1) consultation meeting conducted by PT, KFE, IT company and the Committee relative to the first draft version of the manual is developed by Q1 Y4	- Meeting report with comments and recommendations	- Strong support and participation from government
Activity 2.7.2.	Users' Manual Development	One (1) users' manual finalized and developed by IT company and PT to be issued by KFE by the end of Q1 Y4.	- Signed/final User's Manual to ensure the availability of necessary information	
Output 2.8. Workshop for main users of the digitalized data management program is conducted				
Activity 2.8.1.	Workshop on the operationalization of the	Workshop conducted by KFE and PT covering least fifty (50) participants	- Workshop report	- Weather condition - COVID situation

	data management system	representing respective forestry institutions in Q2-3 Y4		
Output 2.9. Digital data management program is launched in all forestry				
Activity 2.9.1.	Program launching	Program launched by the Head of KFE with Committee of Forestry and Wildlife Chief in Q4 Y4 (after the training for all *leshozes*)	- Launching report	
Output 2.10. Final Report on integration of a digital data management program is prepared				
Activity 2.10.1.	Develop project report	Project Report submitted to relevant agencies and AFoCO Secretariat by KFE Head based on the report requirement in Q4 Y4.	- Final/Signed Project Report(s) to verify the status of project implementation/completion	- On time translation

1.4 Justification

The inventory of the unaccounted forests will provide actual information on the existing unaccounted forests in Kostanay and North Kazakhstan regions. The project will provide a basis for further actions to transfer unaccounted forests to state forest fund or to private forest fund, which does not exist in the country. Additionally, the practice and knowledge of this pilot project will be further used in inventory of unaccounted forests in the rest of the country. Inventory of unaccounted forests, in turn, can contribute to increasing the total forest cover countrywide and assist to achieve the goal of 5% forest cover by 2030 adopted in the Ministerial Roundtable on Forest Landscape Restoration under the Bonn Challenge in 2018, Astana, Kazakhstan. Establishing protection on the unaccounted forests will allow strengthening control over fires, illegal logging, which will ultimately contribute to the conservation of biodiversity, increasing carbon sequestration and other ecosystem services of the forests. This will contribute to national targets on biodiversity conservation, climate change mitigation, forest cover increase.

The automated program on forest data management will be an important tool to effectively coordinate and synchronize the forest data, which in turn, will assist in proper decision making and actions on forest conservation. All the subdivisions of the Committee and local forest entities will operate forest data timely and efficiently using personal computers only. The up-to-date forest data will be readily available in the cloud to all the parties that have access anytime, and the data will be stored for a long period, which will favor the Principles of forest legislation of the Republic of Kazakhstan according to the Article 3 of the Forest Code (availability of information on the state of the forest fund). This will contribute to availability of forest information for interested bodies such as central and local governments, environmental NGOs, and international organizations. All the subdivisions of the Committee and local forest entities will operate forest data timely and efficiently using the developed platform using personal computers only, which increase their capacity in forest data management and decision making. "Kazakh Forestry Enterprise" will be the main consolidating and improvement body of the platform in order to its further sustainable use.

2. Objectives

2.1. Main objectives

According to the preliminary estimation, there are more than 300 thousand hectares of unaccounted forests in the country. They are located on the adjacent territories to the state forests, or on the lands of the state reserved lands or private land users. Since these forests are not included in the State Forest Fund, they are not protected from fires, illegal logging pest attacks and diseases and the valuable ecosystem services of these forests such as carbon sequestration and water regulation are not counted countrywide. Due to these unfavorable factors, the areas of these forests tend to decrease or be degraded.

In view of this, the main objective of the project is to conduct accounting of unaccounted forests in Kostanay and North Kazakhstan regions which has not been done before so that inventory of unaccounted forests across the whole country in the future can be carried out in the future.

This project will contribute to the achievement of the basic principles of forestry, namely the sustainable development of forests (constant increase in the forest cover of the territory of the Republic of Kazakhstan), conservation of biological diversity of forests, objects of the state natural reserve fund, cultural and natural heritage, multi-purpose use of forests, rational, continuous, sustainable use of forest resources.

2.2.Specific objective(s) and success criteria & indicators

Specifically, the project aims to achieve the following:

a. To conduct identification and pilot inventory of the unaccounted forests in Kostanay and North Kazakhstan regions by the end of 2025
b. To develop a fully functional digital program (software) on forest data management conduct inventory of unaccounted forests of Kostanay and North Kazakhstan regions;

Success Criteria and Indicator(s):

1) ***Objective 1****:* To conduct identification and mapping pilot inventory of the unaccounted f orests in Kostanay and North Kazakhstan regions by the end of 2025*;*

One of the indicators of successful forest management is the constant growth of forests, as one of the types of renewable resources. Which is very important in the conditions of a sharply continental climate, which causes a lack of forests in the republic. Therefore, it is especially important in conditions of limited forest resources to adhere to the rational and continuous use of forest resources to maintain the natural balance. Therefore, carrying out an inventory of unaccounted forests means transferring these forests from the category of unmanaged, at risk of fires, outbreaks of pests and diseases, to the category of managed forests, with ongoing monitoring of their condition, compliance with fire and sanitary safety on the basis of existing regulatory legal acts.

Criterion:

Field inventory and mapping of unaccounted forests with georeferencing on the ground based on satellite images using geographic information systems and compiling taxation descriptions with forest characteristics.

Indicators:

1. In the second half of 2022, holding consultation meetings with local executive bodies and forest institutions.

2. Conducting a field inventory of unaccounted forests from the 2nd Quarter of 2023, with their assignment to forest owners necessary for data processing in the SOLI_N program.

3. Starting from the second half of the year 3, 2024, obtaining taxation descriptions will make it possible to determine the amount of carbon sequestration based on the identified taxation characteristics of unaccounted for forests.

4. From the second half of the year 3, 2024, when mapping forests, the main recipients of unaccounted forests were identified - state forest owners or unaccounted forests were transferred to the category of private forest fund.

5. At the end of the 4th year of 2025, forest mapping was carried out for the unaccounted forests of Kostannay and North Kazakhstan regions and taxation descriptions were collected with the division of unrecorded forest areas by forest owners.

2) ***Objective2****:* To develop a fully functional digital program (software) on forest data manage

Criterion:

Creation of a digital platform with the placement of electronic copies of documents maintained at the level of forestry, forest institutions

Indicators:

1. The digital platform hosts electronic copies of documents maintained at the forestry level. When they are filled out, these documents are automatically generated into journals
2. In the second half of 2023, the digital platform was launched in test mode at the level of forestry and forest institutions.
3. At the end of the first half of the year, the digital platform was launched in test mode at the regional level.
4. At the beginning of 2025, the Digital Platform User Guide was created.
5. At the end of the 4th quarter of 2024, a digital platform for electronic document management was installed and launched in test mode.
6. At the end of the 4th year, work on the development of the platform was completed, work is underway to fill in the data directly on the platform itself by forest institutions.

SECTION C. DESCRIPTION OF PROJECT INTERVENTIONS

1. Work Plan and Schedule

Outputs	Performance Indicator	Responsible Person/ Body	Annual Timeline																Remarks
			Year 1				Year 2				Year 3				Year 4				
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
Objective 1 To conduct identification and mapping pilot inventory of the unaccounted forests in Kostanay and North Kazakhstan regions by the end of 2025																			
Output 1: Unaccounted forests in Kostanay and North Kazakhstan regions are identified through field inventory and mapping to be included in the State Forest Fund																			
Output 1.1. Project Team to coordinate the project is established																			
Activity 1.1.1 Conduct in-house consultation on establishment of Project Team (PT)	Meeting report including initial identification of PT members/composition photos of the meeting with at least ten (10) participants	Kazakh Forestry Enterprise																	
Activity 1.1.2. Develop and issue a ToR for Project Team on their functions and tasks	ToR for PT consisting of (6) people (Project Manager, Project Coordinator, Two experts, Assistant)	Kazakh Forestry Enterprise																	
Activity 1.1.3. Conduct project orientation meeting with the PT	Meeting report with agreements/arrangements	Kazakh Forestry Enterprise																	
Output 1.2. In-house collected baseline data analyzed and digital images procured																			

Activity 1.2.1. Procure equipment required to conduct activities for data collection/validation	Three (3) laptops Three (3) MapInfo Sowftware	Kazakh Forestry Enterprise																	
Activity 1.2.2. Conduct in-house preparatory work through collection of baseline data such as schemes, maps, reports, documents, policies	One (1) consolidated package of existing data Plan for field inventory	Kazakh Forestry Enterprise																	
Activity 1.2.3. Analyze collected data	Consolidated report/maps on the analysis	Kazakh Forestry Enterprise																	
Activity 1.2.4. Procure images from the satellite image supplier (KGS Space Technologies)	One (1) package of satellite images	Kazakh Forestry Enterprise																	
Activity 1.2.5. Procurement of equipment required to conduct activities for data processing and coding	Four (4) MapInfo Software Four (4) Laptops Four (4) Tablets Four (4) Desktops One (1) Photo copiers One (1) Plotter One (1) Scanner	Kazakh Forestry Enterprise																	
Output 1.3. Project stakeholders consulted through the meeting both in Kostanay and North Kazakhstan																			

Activity 1.3.1. Conduct consultation meeting with relevant local forestry agencies and stakeholders in Kostanay	Meeting report including stakeholders' mapping	Kazakh Forestry Enterprise																		
Activity 1.3.2. Conduct consultation meeting with relevant local forestry agencies and stakeholders in North Kazakhstan	Meeting report including stakeholders' mapping	Kazakh Forestry Enterprise																		
Output 1.4: Existing analyzed data validated in both Kostanay and North Kazakhstan regions																				
Activity 1.4.1. Collection of baseline data from relevant agencies and local stakeholders in two regions for validation and further analysis	Final package of analyzed/validated data consolidated in one (1) report as baseline data	Kazakh Forestry Enterprise																		
Output 1.5: Field inventory conducted in Kostanay and North Kazakhstan regions																				
Activity 1.5.1. Conduct field inventory and validation in	Field inventory/validation report from each region	Kazakh Forestry Enterprise																		

identified unaccounted forests																			
Output 1.6: Data processed in Kostanay and North Kazakhstan regions																			
Activity 1.6.1. Map demarcation of identified unaccounted forests with special code and territorial arrangement	One (1) packaged map with demarcated forests, schemes of forests and images	Kazakh Forestry Enterprise																	
Output 1.7: Report on inventory of unaccounted forests in Kostanay and North Kazakhstan prepared																			
Activity 1.7.1. Develop project report including forest management planning and forest utilization	Final/Signed Project Report(s)	Kazakh Forestry Enterprise																	
Objective 2 To develop a fully functional digital program (software) on forest data management																			
Output 2: Digital data management system installed and launched in all forest agencies/institutions																			
Output 2.1: Project Team for data management program established																			
Activity 2.1.1. Conduct in-house consultation on establishment of Project Team (PT)	Meeting report	Kazakh Forestry Enterprise																	
Activity 2.1.2. Develop and issue a ToR for Project Team on their functions and tasks	ToR for PT consisting of (6) people (Project Manager, Project Coordinator, Two experts, Assistant)	Kazakh Forestry Enterprise																	

Activity 2.1.3. Conduct project orientation meeting with the PT	Meeting report with agreements/arrangements	Kazakh Forestry Enterprise																	
Output 2.2: Baseline data collected and analyzed																			
Activity 2.2.1. Conduct in-house preparatory work through collection of baseline data	One (1) package of collected documents	Kazakh Forestry Enterprise																	
Activity 2.2.2. Conduct field visit for collection of baseline data from other leshoz	One (1) package of collected documents	Kazakh Forestry Enterprise																	
Activity 2.2.3. Analyze collected data	Consolidated report on the analysis to verify data of accounted forests	Kazakh Forestry Enterprise																	
Output 2.3 Software for data management is procured																			
Activity 2.3.1. Hiring and coordination with selected IT company	Signed contract Meeting report	Kazakh Forestry Enterprise																	
Activity 2.3.2. Installation and pilot test run of software	Inspection report duly signed by relevant office	Kazakh Forestry Enterprise																	
Output 2.4: Stakeholders consulted through workshop																			
Activity 2.4.1. Study of data requirement through	Workshop report	Kazakh Forestry Enterprise																	

consultation workshop																			
Output 2.5. Existing collected baseline data processed and data format developed																			
Activity 2.5.1. Development of digital platform/program	Development of platform/software data management system	Kazakh Forestry Enterprise																	
Output 2.6. Developed digital data management program is field tested																			
Activity 2.6.1. Testing of developed program/platform in the provincial level	Validation report and test results to verify status of data management system installation	Kazakh Forestry Enterprise																	
Activity 2.6.2. Testing of developed program/platform in the regional level	Validation report and test results	Kazakh Forestry Enterprise																	
Output 2.7. Digital data management program users' manual developed with the Committee of Forestry																			
Activity 2.7.1. Consultation meeting in the Committee of Forestry and Wildlife for the preparation of the users' manual	Meeting report with comments and recommendations	Kazakh Forestry Enterprise																	
Activity 2.7.2. Users' Manual Development	Signed/final User's Manual	Kazakh Forestry Enterprise																	
Output 2.8. Workshop for main users of the digitalized data management program is conducted																			

Activity 2.8.1. Workshop on the operationalization of the data management system	Workshop report including internal evaluation form	Kazakh Forestry Enterprise																	
Output 2.9. Digital data management program is launched in all forestries																			
Activity 2.9.1. Program launch	Launching report	Kazakh Forestry Enterprise																	
Output 2.10. Final Report on integration of a digital data management program is prepared																			
Activity 2.10.1. Develop project report	Final/Signed Project Report(s)	Kazakh Forestry Enterprise																	
Indirect cost																			
Organize the PSC meetings																			
Others																			
Training Myanmar																			

1. Budget (USD) :

Kindly note that this is the budget per approved project proposal and still subject for review and reprogramming to compensate for the forex loss and necessary adjustments in order to entertain the possibility of increasing the amount for the procurement of project equipment.

*Detailed yearly budget breakdown is attached as **Annex 1** in a separate Excel sheet.*

Objective/ Output/ Activity	Unit Cost (USD)	Unit 1	Quantity 1	Unit 2	Quantity 2	Unit 3	Quantity 3	Total Cost	Budget Allocation by Year (USD)
									Total Cost
Objective 1. To conduct identification and mapping pilot inventory of the unaccounted forests in Kostanay and North Kazakhstan regions covering an estimated area of 29,399 hectares by the end of 2025								**404 960**	**404 960**
Output 1: Unaccounted forests in Kostanay and North Kazakhstan regions are identified through field inventory and mapping to be included in the State Forest Fund								**404 960**	**404 960**
Output 1.1. Project Team to coordinate the project is established								120 480	120 480
1.1.1.Conduct in-house consultation on establishment of Project Team (PT)									
1.1.2. Develop and issue a ToR for Project Team on their functions and tasks									
- Project Manager	700	person	1	month	48			33 600	33 600
- Assistant (with English proficiency)	500	person	1	month	48			24 000	24 000
- Project Leader from Kazakhstan Ormandary Fund	800	person	1	month	48			38 400	38 400
- Accountant from Kazakhstan Ormandary Fund	500	person	1	month	48			24 000	24 000

1.1.3. Conduct project orientation meeting with the PT									
- Accommodation	100	person	2	days	1			200	200
- Travel cost	70	person	2	times	2			280	280
Output 1.2. In-house collected baseline data analyzed and digital images procured								74 810	74 810
1.2.1. Procure equipment required to conduct activities for data collection/validation									
- Procurement of laptops	700	units	3					2 100	2 100
- Procurement of MapInfo Software	2 081	units	3					6 243	6 243
1.2.2. Conduct in-house preparatory work through collection of baseline data such as schemes, maps, reports, documents, policies									
1.2.3. Analyze collected data									
- Stationary (paper, copy, printing etc.)	10	package	1	days	30			300	300
1.2.4. Procurement of satelite images (KGS Space Technologies)	30 000	package	1					30 000	30 000
1.2.5 Procurement of equipment required to conduct activities for data processing and coding								36 167	36 167
- MapInfo Software	2 081	units	4					8 324	8 324
- Laptops	700	units	4					2 800	2 800
- Tablets	255	units	4					1 020	1 020
- Printer	2 500	units	1					2 500	2 500
- Desktops	865	units	4					3 460	3 460
- Photo copiers	4 163	units	1					4 163	4 163
- Plotters	6 950	units	1					6 950	6 950
- Scanners	6 950	units	1					6 950	6 950
Output 1.3. Project stakeholders consulted through the meeting in Kostanay and North Kazakhstan								4 170	4 170
1.3.1. Conduct consultation meeting with relevant local forestry agencies and stakeholders in Kostanay									
- Transportation (airfare from Almaty-Kostanay) (1 project manager + 2 experts)	70	person	3	times	1			210	210

- Venue	250	day	1	times	3			750	750
- DSA for participants	20	person	20	days	3			1 200	1 200
1.3.2. Conduct consultation meeting with relevant local forestry agencies and stakeholders in North Kazakhstan									
- Transportation (project manager + 2 experts)	20	person	3	times	1			60	60
- Venue	250	day	1	days	3			750	750
- DSA for participants	20	person	20	days	3			1 200	1 200
Output 1.4. Existing analyzed data validated in Kostanay and North Kazakhstan regions								35 520	35 520
1.4.1 Collection of baseline data from relevant agencies and local stakeholders in two regions for validation and further analysis									
- Accommodation (2 project managers + 4 experts)	50	person	6	days	30			9 000	9 000
- DSA (2project managers + 4 experts)	20	person	6	days	30			3 600	3 600
- DSA for 10 local forestry officers working on data collection	20	person	10	days	30			6 000	6 000
- Car rent for field work	50	vehicle	6	days	30			9 000	9 000
- Hire 4 experts (salary based/daily too expensive)	330	person	4	month	6			7 920	7 920
Output 1.5. Field inventory in Kostanay and North Kazakhstan regions								139 520	139 520
1.5.1. Conduct field inventory and validation in identified unaccounted forests									
- Accommodation (2project managers + 6 experts)	50	person	8	days	120			48 000	48 000
- DSA (2project managers + 6 experts)	20	person	8	days	120			19 200	19 200
- Car rent	50	unit	8	days	120			48 000	48 000
- Hire 6 experts (salary based/daily too expensive)	330	person	6	month	12			23 760	23 760
- Transportation (2project manager + 6 experts)	70	person	8	unit	1			560	560
Output 1.6. Data processing in Kostanay region and North Kazakhstan region								30 160	30 160
1.6.1. Map demarcation of identified unaccounted forests with special code and territorial arrangement									
- Hire domestic consultants x 6 experts	330	person	6	month	12			23 760	23 760
- Stationary (prinitngs of maps, photos etc.)	3 200	package	2					6 400	6 400
Output 1.7. Report on inventory of unaccounted forests in Kostanay and North Kazakhstan prepared								300	300

1.7.1. Develop project report including forest management planning and forest utilization									
- Prepare necessary reports	10	unit	1	month	1			300	300
Sub-total (Output 1)								404 960	404 960
Total (Objective 1)								404 960	404 960
Objective 2 To develop a fully functional digital program (software) on forest data management								446 180	446 180
Output 2: Digital data management program implemented and integrated for data processing across the forest management institutions								446 180	446 180
Output 2.1. Project Team for data management program is established								0	0
2.1.1. Conduct in-house consultation on establishment of Project Team (PT)									0
2.1.2. Develop and issue a ToR for Project Team on their functions and tasks									0
2.1.3. Conduct project orientation meeting with the PT									0
Output 2.2. Baseline data collected and analyzed								11 934	11 934
2.2.1. Conduct in-house preparatory work through collection of baseline data	330	persons	2	month	6			3 960	3 960
2.2.2. Conduct field visit for collection of baseline data from other leshoz									
- Transportation	23	persons	3	times	6			414	414
- DSA (project manager + 2 experts)	20	persons	3	days	10			600	600
- Accommodation (project manager + 2 experts)	50	persons	3	days	10			1 500	1 500
- Car rent	50	unit	3	days	10			1 500	1 500
2.2.3. Analyze collected data									
- Hire two experts	330	persons	2	month	6			3 960	3 960
Output 2.3. Software for data management is procured								76 000	76 000
2.3.1. Hiring and coordinating with selected IT company	38 000	package	1					38 000	38 000
2.3.2. Installation and pilot test run of software	38 000	package	1					38 000	38 000

Output 2.4. Stakeholders consulted through workshop								6 600	6 600
2.4.1. Study of data requirement through consultation workshop									
- Venue	250			days	2			500	500
- DSA for participants	20	person	20	days	2			800	800
- Transportation	140	person	20	times	1			2 800	2 800
- Accommodation	100	person	20	days	1			2 000	2 000
- Package (coffee, copies, printings etc.)	500	package	1					500	500
Output 2.5.Existing collected baseline data processed and draft version of data platform developed								237 000	237 000
2.5.1. Development of digital platform/program	237 000	unit	1					237 000	237 000
Output 2.6. Developed digital data management program is field tested in the provincial level								21 900	21 900
2.6.1. Testing of developed program/platform in the provincial level									
- Transportation (1 project manager + 2 experts)	70	person	3	times	5			1 050	1 050
- Accommodation (1 project manager + 2 experts)	50	person	3	days	8			1 200	1 200
- DSA (1 project manager + 2 experts)	20	person	3	days	8			480	480
- Car rent	50	unit	1	days	6			300	300
- Hire internal experts	330	person	2	month	12			7 920	7 920
2.6.2. Testing of developed program/platform in the regional level									0
- Transportation (1 project manager + 2 experts)	70	person	3	days	5			1 050	1 050
- Accommodation (1 project manager + 2 experts)	50	person	3	days	8			1 200	1 200
- DSA (1 project manager + 2 experts)	20	person	3	days	8			480	480
- Car rent	50	unit	1	days	6			300	300
- Hire internal experts	330	person	2	month	12			7 920	7 920
Output 2.7. Digital data management program users' manual developed together with the Committee of Forestry								9 390	9 390
2.7.1. Consultation meeting in the Committee of Forestry and Wildlife for the preparation of the users' manual									

- Transportation (project manager + 2 experts)	70	person	3	times	2			420	420
- Accommodation (project manager + 2 experts)	50	person	3	days	5			750	750
- DSA (project manager + 2 experts)	20	person	3	days	5			300	300
- Hire internal experts	330	person	2	month	12			7 920	7 920
2.7.2 Users' Manual Development								0	0
Output 2.8. Workshop for main users of the digitalized data management program is conducted								16 100	16 100
2.8.1 Workshop on the operationalization of the data management system									
- Transportation (project manager x 2 experts)	70	person	50	times	2			7 000	7 000
- Accommodation (project manager x 2 experts)	50	person	50	days	1			2 500	2 500
- DSA (project manager x 2 experts)	20	person	50	days	2			2 000	2 000
- Venue (for over 50 people)	500	unit	1	days	2			1 000	1 000
- Printing Users' Manual	10	unit	60					600	600
- Meal	15	person	50	unit	4			3 000	3 000
Output 2.9. Digital data management program is launched in all forestries								6 000	6 000
2.9.1 Program launch									
-Transportation (1 project manager + 2 experts)	70	person	3	times	10			2 100	2 100
-Accommodation (1 project manager + 2 experts)	50	person	3	days	15			2 250	2 250
-DSA (1 project manager + 2 experts)	20	person	3	days	15			900	900
-Car rent	50	unit	1	days	15			750	750
Output 2.10. Final Report on integration of a digital data management program is prepared								432	432
2.10.1. Prepare final report	432	package	1					432	432
Indirect Cost								60 824	60 824
Organize the PSC meetings (around 8 people x 1 day each year)									
- Meeting package (venue, banners, projectors, drinks etc.)	500	days	1	times	4			2 000	2 000
- Procure interpreter (Russian-English)	300	person	1	times	4			1 200	1 200
- Coffee break 2 times	20	person	8	times	2	years	4	1 280	1 280
- Meal	20	person	8	times	2	years	4	1 280	1 280

- Accommodation of local staff	100	person	3	days	1	years	4	1 200	1 200
- DSA of local staff	20	person	8	days	2	years	4	1 280	1 280
- Transport fee of local staff	70	person	3	time	4			840	840
- Stationary, printing documents etc.	100	unit	4					400	400
Others									
- Office maintanence fee (electricity,water, paper, internet fee etc.)	308	package	1	month	48			14 784	14 784
- Bank service fee	50	unit	1	month	48			2 400	2 400
- Service fee (stationary, travels, meetings etc.)	300	unit	1	month	48			14 400	14 400
- Stationary (papers, copies etc.) for fiield inventory	10	days	40					400	400
- Stationary for data analysis (papers, copies etc.)	10	days	40					400	400
- Stationary for in-house baseline data collection	500	package	1					500	500
Monitoring and Evaluation Support	500	person	1					500	500
Training in Myanmar								17 960	
- DSA (for 2 people)	35	person	2	days	7	years	4	1 960	1 960
- Airfare (roundtrip)	2 000	person	2	year	4			16 000	16 000
Sub-total (Output 2)								446 180	446 180
Total (Objective 1 and 2)								851 140	851 140
Program Support (12% of subtotal) * Financial Regulations 3.4								102 137	102 137
Grand Total								953 277	953 277
*Note: Exchange rate	I USD = _____ (Please use the existing UN exchange rate applied to the budget estimates.)								

2.2. National contribution of Kazakhstan:

Activity	Unit	Unit cost	Qty	Total (USD)	Budget allocation by year (USD)					Remark
					2022	2023	2024	2025	2026	
Procurement of satellite images	**Package**	**290,530**	**1**	**290,530**	**290,530**					
Total				**290,530**						

SECTION D. IMPLEMENTATION ARRANGEMENTS

1. Organizational structure

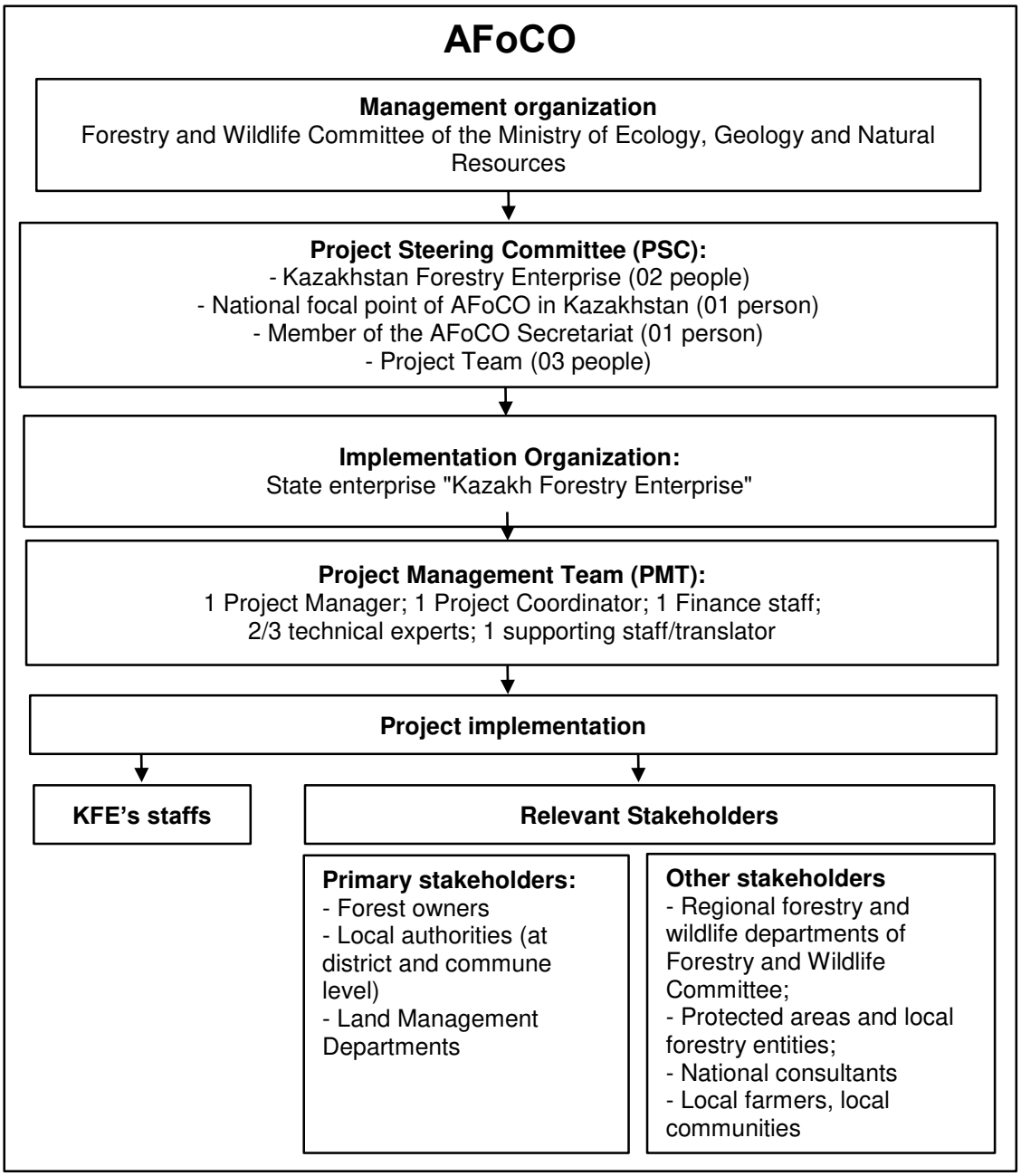


Figure A

Biodiversity Conservation Fund of Kazakhstan (Fund) The main objective of the Fund is to raise funds for subsequent grant financing of projects aimed at preserving the biological diversity of Kazakhstan. For the purposes of carrying out its main activities, the Fund is included in the list of grant-giving organizations and is a unique mechanism for interaction between public and private partnerships. The FSBK will implement the project through the Forestry and Wildlife Committee (Committee), the head of the FSBK will take responsibility for the project, which will be supported by the AFoCO coordinator. The project should involve following government agencies:

- Committee is a state body and department exercising executive, control and supervisory

functions in the field of forestry, protection, reproduction and use of wildlife and specially protected natural areas. Is the body that adopts programs aimed at achieving sustainable forest management, based on scientific data and the principles of rational and sustainable forest management;

- **Akimat (City-hall) of Kostanay region** is a local executive body whose organizational structure is determined by the duties and powers of the local government as an executive body. Akimat consists of akim (mayor), his deputies, departments and other service units. The structure of the akimat is approved by the Maslikhat (Regional Parliament) on the proposal of the akim immediately after it is determined in accordance with the management scheme of the region, district, and city. It is the body that conducts forestry at the regional level of the Kostanay region;

- **Akimat (City-hall) of the North Kazakhstan region** is a local executive body whose organizational structure is determined by the duties and powers of the local government as an executive body. Akimat consists of akim (mayor), his deputies, departments, departments and other service units. The structure of the akimat is approved by the Maslikhat (Regional Parliament) on the proposal of the akim immediately after it is determined in accordance with the management scheme of the region, district, city. It is the body that conducts forestry at the regional level of the North-Kazakhstan region;

- **The Department of Natural Resources and Environmental Management of the Kostanay region** is a state body exercising leadership in the areas of forestry, hunting, fisheries, water management, specially protected natural areas, environmental protection and other objects of the animal and plant world. Engaged in promoting the development and improvement of state policy in the areas of forestry, hunting, fisheries, water management, specially protected natural areas, environmental protection and other objects of the animal and plant world;

- **The Department of Natural Resources for the Regulation of Environmental Management of the North Kazakhstan Region** is a state body of the Republic of Kazakhstan that manages forestry, hunting, fisheries, water management, specially protected natural areas for environmental protection and other objects of flora and fauna in the North Kazakhstan Region;

- **The Kostanay Territorial Inspectorate for Forestry and Wildlife** is a territorial subdivision of the Committee that performs implementation, control and supervisory functions in the field of forestry, protection, reproduction and use of wildlife and specially protected natural areas in the Kostanay region;

- **The North Kazakhstan Territorial Inspectorate for Forestry and Wildlife** is a territorial subdivision of the Committee that performs implementation, control and supervisory functions in the field of forestry, protection, reproduction and use of wildlife and specially protected natural areas in the North Kazakhstan region;

- Communal forestry institutions - institutions established to implement measures to