



“THE INTEGRATED FOREST ECOSYSTEM MANAGEMENT PROJECT IN THE KYRGYZ  
REPUBLIC” (IFEMP)

## **CONSULTING SERVICES**

**NATIONAL FOREST INVENTORY EXECUTION AND CAPACITY BUILDING**

Contract № KG/IFEMP/QCBS/NFI/01/2018

### **REPORT №1 ON FIELD WORK CONTROL NFI #2**

Duration: 20.06. - 25.07.2020



# NATIONAL FOREST INVENTORY EXECUTION AND CAPACITY BUILDING

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## REPORT №1 ON FIELD WORK CONTROL NFI #2

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State Agency for environmental protection and forestry

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## ACRONYMS

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DBH	Diameter at breast height (1.3 m)
DFED	Department of forest ecosystem development
LU	Forest management planning (Lesoustroistvo)
GIS	Geographic Information System
IFEMP	Integrated Forest Ecosystem Management Project
Leskhoz	State Forest Enterprise
NFI	National Forest Inventory
NFI №1	1 <sup>st</sup> National Forest Inventory of the Kyrgyz Republic
NFI №2	2 <sup>nd</sup> National Forest Inventory of the Kyrgyz Republic
SAEPF	State Agency for Environmental Protection and Forestry
GU KLOU	Gosudarstvennoe uchrejdenie «Kyrgyzlesokhotustroystvo»
TTFI	Technical Team for Forest Inventory
QA	Quality assurance
QC	Quality control

# 1 GENERAL CONCEPTS FOR FIELD WORK CONTROL

Continuous supervision and monitoring of NFI # 2 field operations is important for ensuring the quality of data on field assessments and measurements and which is important for ensuring the quality of data during the data processing and analysis process.

Control of the field work is done by two methods:

- **Hot control** - control of field work during measurements directly by field teams. At the same time, a member of the control team closely monitors the process of making measurements by the field team and conducts training and data correction;
- **Cold control** - this control method involves re-measuring the sample areas that have already been made by field teams and the data is stored in the server. On the part of the control team, the laid sample areas are selectively selected and re-laid, and the data is compared.

During the first month, only hot controls were performed, since planned control requires data from field operations and is checked by the Database team.

**Table 1. Distribution of field work control between hot and cold inspections (see Annex 2 for details)**

Number of the supervision and control team	The number of field teams, under the supervision	Number of controlled tracts		Total
		Hot controls	Cold controls	
1	3	21	12	33
2	3	21	12	33
3	3	21	12	33
4	3	21	12	33
<b>Bcero</b>	<b>12</b>	<b>84</b>	<b>48</b>	<b>132 (± 10%) *</b>
* additional control is possible, depending on the performance of work by field groups				

The selection of tracts for monitoring (hot and cold controls) is based on the following criteria:

- balanced distribution among all field groups;
- coverage of all strata and regions;
- erroneous field data that should be rechecked.

**The above-stated data are obtained from the Technical guideline for data quality assurance, pages 8 and 11 (Annex 2)**

## Supervision and control teams

UNIQUE-CAREC forestry experts and TTFI staff are members of the Supervision and control teams. The supervision and control teams consist of 5 UNIQUE-CAREC experts, 2 experts from GU KLOU, and 1 expert from the DFED under the SAEPF. Each supervision and control team is

responsible for the supervision of the 3 field groups, quality control of the respective field groups and the data provided by them. Table 2 shows the key composition of the supervision and control teams.

**Table 2: Composition of the supervision and control team**

No	Name	Organization	Position	Training in the framework of NFI #2
1	Alexander Gradel	UNIQUE	International coordinator	Organized and conducted online and field trainings together with UNIQUE experts
2	Kuban Matraimov	CAREC	National coordinator	Organized and conducted online and field trainings together with UNIQUE experts
3	Emil Ibraev	CAREC	Supervisor and controller	Participated in online training and conducted field trainings together with UNIQUE-CAREC experts
4	Keneshbek Usenov	CAREC	Supervisor and controller	Participated in online training and conducted field trainings together with UNIQUE-CAREC experts
5	Kaparbek Bekmyrzaev	CAREC	Supervisor and controller	Participated in online training and conducted field trainings together with UNIQUE-CAREC experts
6	Zhenish Ashyrbekov	GU KLOU	Supervisor and controller	Participated in online training and conducted field trainings together with UNIQUE-CAREC experts
7	Mairambek Taabaldiev	GU KLOU	Not a permanent part.	Participated in a field training on the territory of the forest Institute with UNIQUE-CAREC experts and passed the introductory theoretical course NFI 2
8	Aibek Baidaliev	DFED, SAEPP	Not a permanent part.	2 days during online training (29.04-09.05). Also participated in the meetings of the TTFI

Mayrambek Taabaldiev is not previously a member of TTFI, but according to the decision of the management of GU KLOU, he will replace Chodoev Nurgazy and will continue to participate in the control work of the NFI 2 field work.

In addition, they will participate in the control works:

- S. Chukumbaev – Director of GU «Kyrgyzlesokhotustroystvo»
- N. Dovletov – Associate Director GU «Kyrgyzlesokhotustroystvo»

- Muslim Rajapbaev - Institute of biology, NAS KR
- All aspects are presented and explained in more detail in the following documents:

The above-stated information is obtained from the Technical data quality assurance manual, pages 8 and 11, and you can find more information about this document in Annex 1.

## 2 MONITORING THE WORK OF FIELD TEAMS

### 2.1 Work package

According to the implementation Plan and Technical guidelines for data quality assurance, field teams work according to the developed Work packages (monthly or two-month work volumes, map data and GIS data paths).

Field work began on June 22, 2020 in parallel in all regions of the Republic. 12 field teams were organized, which are distributed in the following areas with 2-month norms for work (table 3).

**Table 3. Scope of work of field teams**

Teams (Team leader)	Region and district	Number of tracts	Required working days	Duration of work
Kubat Jamankulov	Jalal-Abad region (Chatkal and Toktogul district)	61	52	22.06-22.08
Azamat Konkuev	Issyk-Kul region (Aksuu district)	62	52	25.06-25.08
Kairat Kuliev	Jalal-Abad region (Bazar Korgon district)	96	52	25.06-25.08
Akmat Nuraliev	Jalal-Abad region (Aksy district)	70	52	25.06-25.08
Kuban Ibraimov	Jalal-Abad region (Ala-Buka district)	66	51	25.06-25.08
Ramis Anarbek Uulu	Jalal-Abad region (Suzak district)	99	52	25.06-25.08
SM. Jarkynbaev	Osh region (Kara-Kulja district)	66	51	22.06-22.08
Bakai Uchkurткаev	Batken region (Kadamjai district)	50	51	22.06-22.08
Nurgazy Aliev	Chui region (Kemin district)	62	52	25.06-25.08
Bakhtiyar Soltonkulov	Issyk-Kul region (Tyup district)	63	52	25.06- 25.08
Bolot Asanakunov	Naryn region (At-Bashy district)	62	53	25.06- 25.08
Maksat Andashbaev	Naryn region (Jumgal district)	61	53	25.06-25.08

## 2.2 The Supervision & Control Team's responsibility over field teams

Four Control teams are organized for training and quality control of field data and 3 controlled field teams are distributed for each control team:

**Table 4. Distribution of field teams**

No.	Name	Organization	Controlled teams
	Jenysh Ashyrbekov	GU KLOU	Participates in various control groups and working with the Database team
	Alexander Gradel	UNIQUE	Participates in various control groups and working with the Database team General management for quality assurance
1	Kuban Matraimov	CAREC	Bolot Asanakunov, Azamat Konkuev, Bakhtiyar Soltonkulov
2	Emil Ibraev	CAREC Expert	Kuban Ibraimov, Akmat Nuraliev, Kairat Kuliev
3	Keneshbek Usenov	CAREC Expert	SM. Jarkynbaev, Bakai Uchkurtkaev, Ramis Anarbek uulu
4	Kaparbek Bekmyrzaev	CAREC Expert	Kubat Jamankulov, Nurgazy Aliev, Maksat An-dashbaev

Initially, according to the NFI 2 implementation Plan, the distribution of members of the Control team was provided so that each team has 2 specialists permanently. But in reality (the practice of the first month), such a system does not work and it is necessary to adapt the implementation plan (where the distribution of supervision and control teams) according to the above-stated table.

Each member of the Supervision & Control team must work with the Database group to analyze field data, identify errors, and make decisions.

Control teams travel together with field teams, constantly conduct training during the laying of sample plots, if necessary, immediately correct errors of field teams.

## 3 RESULTS OBTAINED FROM FIELD TEAMS

Field teams left on 22 (teams led by Jamankulov, Jarkynbayev and Uchkurtkayev) and on 25 June this year (other teams). As of July 25, the following results were received from the field teams:

**Table 5. The amount of work performed by field teams in the first month**

Teams (Team leader)	Region and district	Laid tracts	Sample plots
Kubat Jamankulov	Jalal-Abad region (Chatkal and Toktogul district)	19	34
Azamat Konkuev	Issyk-Kul region (Aksuu district)	19	32
Kairat Kuliev	Jalal-Abad region (Bazar Korgon district)	12	32
Akmat Nuraliev	Jalal-Abad region (Aksy district)	11	23



Kuban Ibraimov	Jalal-Abad region (Ala-Buka district)	16	43
Ramis Anarbek Uulu	Jalal-Abad region (Suzak district)	15	34
SM. Jarkynbaev	Osh region (Kara-Kulja district)	28	41
Bakai Uchkurtkaev	Batken region (Kadamjai district)	12	21
Nurgazy Aliev	Chui region (Kemin district)	19	34
Bakhtiyar Soltonkulov	Issyk-Kul region (Tyup district)	18	32
Bolot Asanakunov	Naryn region (At-Bashy district)	12	22
Maksat Andashbaev	Naryn region (Jungal district)	17	29
		<b>198</b>	<b>377</b>

Some tracts are not available, but additional decisions will be made on these tracts by the Control teams.

## 4 MAIN RESULTS OF SUPERVISION AND CONTROL TEAM

Based on the results of supervision and control, work quality Protocols are drawn up and to date, the field teams have been monitored twice. The first trip of the control teams (A. Gradel, K. Bekmyrzaev, E. Ibraev and K.Usenov) was carried out jointly with field teams, meetings were organized with district administrations and Directors of forestry and national parks (reserves). Matraimov Kuban and Ashyrbekov Jenysh were unable to participate due to a Coronavirus infection.

During the second trip of the Control teams all the members of the Control team and the heads of the GU KLOU participated: S. Chukumbaev and N. Dovletov.

The results of each team are individual, some teams have mastered the NFI # 2 method very well and there are almost no problems when laying trial areas: the team of Kuban Ibraimov, the team of Kairat Kuliev and the team of Azamat Konkuev. Some teams had difficulties at the initial stage and made mistakes: Nuraliev Akmat's team, SM. Zharkynbayev's team.

The K. Zhamankulov's team reported a large number of inaccessible tracts. According to the experts (the team of the database and head Kaparbek), it does not apply to all tracts. A minimum of 2 to 4 tracts should be available (see results above from field teams).

Each field team was evaluated according to the following indicators:

Navigation to the SP and finding the center of the SP (NFI #1, LU and NFI #2), General data of the sample plot, Reference objects, Description of the sample plot, Disturbance, Resistance, Ground cover, Shrubs, Regeneration circle, Recalculation of trees, Data on stumps, Data– Down dead wood (fallen and standing), Height, Growth, Age, Collection, evaluation and transportation of wood cores.

These indicators are evaluated using a 3-point system (1-error, correction required, 2-satisfactory, 3-very good)

The results of the evaluation of the work of the field teams are given below:

**Table 6. Results of control 1**

Team name	Cobe according to DB	Team leader's name	Data	Result	Tract №	Sample plot №	Controlled by
Field team	1	Kubat Jamankulov	25.06.2020	acc.	6171	1	KB
	2	Azamat Konkuev	01.07.2020	acc.	1233	1; 2	AG, EI
	3	Kairat Kuliev	18.07.2020	acc.	5463	3	KB
	4	Akmataaly Nuraliev	07-08.07.20	acc.	5127	2; 3	EI
	5	Kuban Ibraimov	06.07.2020	acc.	8800	1; 2; 3	EI
	6	Ramis Anarbek uulu	29,30.06.2020	acc.	5538	3; 1; 2	KU
	7	Malik Jarkynbaev	25.06.2020	acc.	5381	1; 2	KU
	8	Bakai Uchkurkaev	24.06.2020	acc.	7542	2; 1	KU
	9	Nurgazy Aliev	04.07.2020	acc.	3070 1048	3 3; 2	KB
	10	Baktiyar Soltonkulov	28.06.2020	acc.	1126	1; 2; 3	AG, EI
	11	Bolot Asanakunov	29.06.2020	acc.	8055	2; 3	KB
	12	Maksat Andashbaev	02.07.2020	acc.	4524	1	KB

Table 6. Results of control 2

Team name	Code according to DB	Team leader's name	Data	Result	Tract №	Sample plot №	Controlled by
Field team	1	Kubat Jamankulov	17.07.20	acc.	6079	1; 2; 3	MT; AG
	2	Azamat Konkuev	17-18.07.20	acc.	8460	2; 3; 4	JA; KM
	3	Kairat Kuliev	19.07.20	acc.	5148	1; 2; 3	KB
	4	Akmataaly Nuraliev	16.07.20	acc.	5429	1	KB
	5	Kuban Ibraimov		acc.			
	6	Ramis Anarbek uulu	19.07.20	acc.	5518	1; 2; 3	KU
	7	Malik Jarkynbaev	18.07.20	acc.	5362	2	KU
	8	Bakai Uchkurkaev	17.07.20	acc.	7955	2	KU
	9	Nurgazy Aliev	15.07.20	acc.	3233	1; 3	AG, MT
	10	Baktiyar Soltonkulov	29.06.20	acc.	3168	1	JA; KM
	11	Bolot Asanakunov	13.07.20	acc.	2893	1, 3	SCh, KB
	12	Maksat Andashbaev	11.07.20	acc.	2481	1	SCh, KB

Table 6. Results of control 3

Team name	Code according to DB	Team leader's name	Data	Result	Tract №	Sample plot №	Controlled by
Field team	1	Kubat Jamankulov					
	2	Azamat Konkuev					
	3	Kairat Kuliev					
	4	Akmataaly Nuraliev					
	5	Kuban Ibraimov					
	6	Ramis Anarbek uulu					
	7	Malik Jarkynbaev	22.07.2020	acc.	7859	2	KU
	8	Bakai Uchkurtkaeв					
	9	Nurgazy Aliev					
	10	Baktiyar Soltonkulov	15-16.07.20	acc.	1222	1; 2	JA; KM
	11	Bolot Asanakunov					
	12	Maksat Andashbaev					

KB Kaparbek Bykmurzaev

KU Keneshbek Usenov

KM Kuban Matraimov

SCh Sabyr Chukumbaev

ND Nurdin Dovletov

AG Alexander Gradel

EI Emil Ibraev

JA Jenysh Ashyrbekov

MT Mairambek Taabaldiev

## 5 IDENTIFIED SHORTCOMINGS OF FIELD WORK AND THEIR ELIMINATION

The main problems of the field teams at the initial stage, which were detected by the Control teams. These inaccuracies may affect the quality of work:

- Teams do not always conduct field work in accordance with the guide NFI#2, and do not study enough the existing field work Guides and the daily work procedures manual.
  - The Control team provides constant consultations and training in the forest during the establishment of sample plots.
- Insufficient compliance with the rules and regulations of field work according to the Handbook on daily working procedures.
  - The control team constantly requires compliance with the requirements when laying test areas.
- The absence of a new GPS receiver, which causes problems with finding the center of the SP.

- Field teams use GPS embedded in tablets used in the LU. The accuracy of finding the SP centers is within 3-5 meters according to the results of the first analysis by UNIQUE experts. These deviations between the planned coordinates and the actual measured coordinates from the field work.
- New GPS receivers have been purchased by the PIU, which are currently being checked and linked to the Application of NFI # 2. Hardware testing is underway and navigation errors are resolved. The new GPS receivers will only be used after fixing navigation errors and establishing a good connection with the NFI # 2 app.
- The chargers provided by the PIU are not sufficient to charge tablets and other electronic devices of the field teams. Chargers received through the tender do not meet the stated requirements.
  - UNIQUE bought large batteries for field teams with chargers and therefore field teams do not have problems with charging when they are in the forest for a long time.

## 6 AGE-RELATED, INCREMENTAL CORES

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In the course of field work on each sample plot where there are trees, the average age and growth by species are determined. Field teams extract increment cores by using increment borers which are transmitted to the GU KLOU office via the Control teams. The first core review has been compiled, but still needs to be verified with other information received. Table 9 provides an overview of the cores received by the project office from field teams prior to July 25. Not all teams have sent their cores to Bishkek yet. However, according to the reviews of the supervision and control team, all teams collect cores.

**Table 9. First review of wooden rods**

Team leader	Number of tracts	Number of cores
N. Aliev	11	59
B. Soltonkulov	5	40
A. Konkuev	15	83
M. Andashbaev	4	18
B. Asanakunov	10	71
A. Nuraliev	8	18
K. Kuliev	12	122
K. Jamankulov	4	12
K. Ibraimov	12	76

**Prepared by:**

**Kuban Matraimov**

**Alexander Gradel**

## 7 APPLICATION

Application 1. Information about completed tracts as of 24.07.2020

<b>№ п/п</b>	<b>Team №</b>	<b>Team leader name</b>	<b>Numbers of measured tracts</b>	<b>Number of tracts</b>	<b>Total amount of SP</b>
1	4	Ramis Anarbek u.	5539, 5521, 5502, 5180, 5481, 5179, 5199, 5218, 5501, 5520, 5538, 5217, 5235, 5234, 5537	15	34
2	3	Kuban Ibraimov	7129, 8426, 8781, 8786, 8788, 8800, 8801, 8803, 8804, 8813, 8814, 8815, 8818, 8819, 8822, 8853.	16	43
3	2	Akmat Nuraliev	8531,7393,5431,8792,8785,5127,8850,8808,8847,8833,5430	11	23
4	6	Bakai Uchkurtkaev	7542, 7541, 7492, 7553, 8040, 8018, 7566, 8168, 7572, 7524, 7567, 7958	12	21
5	8	Azamat Konkuev	1219, 1233, 1250, 1251, 1267, 1268, 1292, 1316, 3259, 3277, 3293, 3295, 3309, 3310, 3312, 3337, 3308, 8451, 8460	19	32
6	7	Nurgazy Aliev	1047, 3068, 3089, 3124, 3090, 1048, 3070, 3268, 1226, 3269, 3233, 1190, 3234, 1282, 3225, 3327, 3353, 1211	19	34
7	9	B. Soltonkulov	1275, 3318, 3300, 1257, 3282, 1239, 3281, 1238, 1254, 3264, 1223, 3245, 3210, 1167, 1126, 3168, 1222, 3778	18	32
8	12	K. Jamankulov	6000, 2121, 6171, 6200, 7128, 8427, 6223, 6212, 6213, 6198, 7266, 7258, 8404, 8401, 8181, 6078, 6079, 8207	19	34
9	1	Kairat Kuliev	5463, 8529, 5162, 5175, 5498, 5196, 5195, 5441, 5139, 5450, 5451, 5150.	12	32
10	5	SM. Jarkynbaev	5381, 5371, 5362, 4968, 8133, 2933, 2953, 8469, 2952, 2973, 5007, 5025, 5006, 5024, 2972, 2949, 2950, 8468, 2970, 5002, 4941, 4957, 2923, 7979, 4959, 2946, 7958	28	41
11	10	B. Asanakunov	2803, 2814,2864,2881,2893,4898,4900,4915,4916,4929,7161,8055	12	22
12	11	M. Andashbaev	4467. 4527. 2484. 4466. 4465. 4525. 2482. 4586. 4524. 2481. 4585. 2542. 4584. 4522. 2537. 4579. 2536	17	29

**Application 2. The relevant documents of the project:**

**Technical guideline for data quality assurance**

**Guide for daily work procedure**

**Implementation plan**