FREQUENTLY ASKED QUESTIONS

NATIONAL FOREST INVENTORY (NFI)

საქართველოს ტყის
ეროვნული აღრიცხვა

GEORGIAN NATIONAL
FOREST INVENTORY

Ministry of Environmental
Protection and Agriculture
of Georgia

გერმანიის
თანამშრომლობა
DEUTSCHE ZUSAMMENARBEIT

Implemented by

giz Deutsche Gesellschaft
für Internationale
Zusammenarbeit (GIZ) GmbH

1 WHAT IS THE NATIONAL FOREST INVENTORY?

The National Forest Inventory is a process of systemically collecting forest-related data. The information obtained in the framework of this process is used for assessing and monitoring forest resources on the country level. The National Forest Inventory is having cycles usually in every 10 years, however, the repetition also depends on the country needs.

The National Forest Inventory is addressing all kinds of forests which are meeting the criteria of the forest definition outlined in the National Forest Inventory manual, regardless of their category, ownership status, management type, and management body. In a nutshell, the National Forest Inventory provides information to assess forest resources at "one point in time".

2   WHY IS THE NATIONAL FOREST INVENTORY NEEDED?

The aim of the National Forest Inventory is to systematically assess and analyse the main characteristics of the forest such as area, biological diversity, structure, degradation status, timber stock, down deadwood stock, regeneration, topographic and other characteristics.

The information collected via the National Forest Inventory is used for effective decision making and policy planning to enable the monitoring and sustainable use of forest resources. Fostering forest research and international reporting (e.g. the Global Forest Resources Assessment of the Food and Agriculture Organization of the United Nations (FAO)) is another important aspect and contribution of the National Forest Inventory.

3   WHAT ARE THE IMPLEMENTATION STEPS OF THE NATIONAL FOREST INVENTORY?

The main steps of the National Forest Inventory are: 1) development of the methodology in line with the national information needs and international reporting obligations; 2) data collection in the forests; 3) data analysis and 4) reporting.

4 WHAT INFORMATION IS COLLECTED DURING THE NATIONAL FOREST INVENTORY?

The National Forest Inventory gathers information about quantitative and qualitative characteristics of forests including area, diversity, structure, composition, volume increment, age class, origin, degradation, soil properties and information on other anthropogenic and non-anthropogenic pressures.

5 WHAT IS A CLUSTER?

A cluster in the context of the Georgian National Forest Inventory refers to an entity of three sample plots having a predetermined distance from one another eventually composing L geometrical shape. Each sample plot contains several subplots for assessing different forest characteristics. Using clustered sample plots (3 sample plots in the Georgian case) enables capturing more variability in contrast to the one compact plot.

6 WHAT IS A GRID?

Most National Forest Inventories are based on systematic grid sampling methodology by laying a grid over the area which is planned to be sampled (here: the territory of Georgia). The intersections of grid lines are locations of the clusters where field measurements will take place. Since the grid has a predetermined size the clusters are evenly distributed throughout the entire area.

7 WHAT IS THE SIZE OF THE GRID?

The National Forest Inventory field work will be implemented in the forest areas at every intersection point of a 3.6 x 3.6 km grid, in total around 2000 clusters will be measured in the frame of the National Forest Inventory.

8 WHAT ARE THE BASES OF THE SELECTION GRID SIZE OF 3.6 X 3.6 KM?

Based on the preliminary research implemented by a German consulting consortium (ForestEye Research GmbH and UNIQUE forestry and land use GmbH), a 3.6 km grid was recommended for the Georgian National Forest Inventory.

The grid size was selected by giving thoughts to statistical considerations, international experience, administrative needs, and time requirements. Adaptation and/or region-wise intensification of the grid can be envisaged for improving the quality of information generated from the future inventories.

9 WHAT IS THE SIZE (HA) OF THE STUDY AREA?

The National Forest Inventory data is obtained from about 2000 clusters which correspond to approximately 423.9 ha and represent about 0.02% of the total forest area of Georgia.
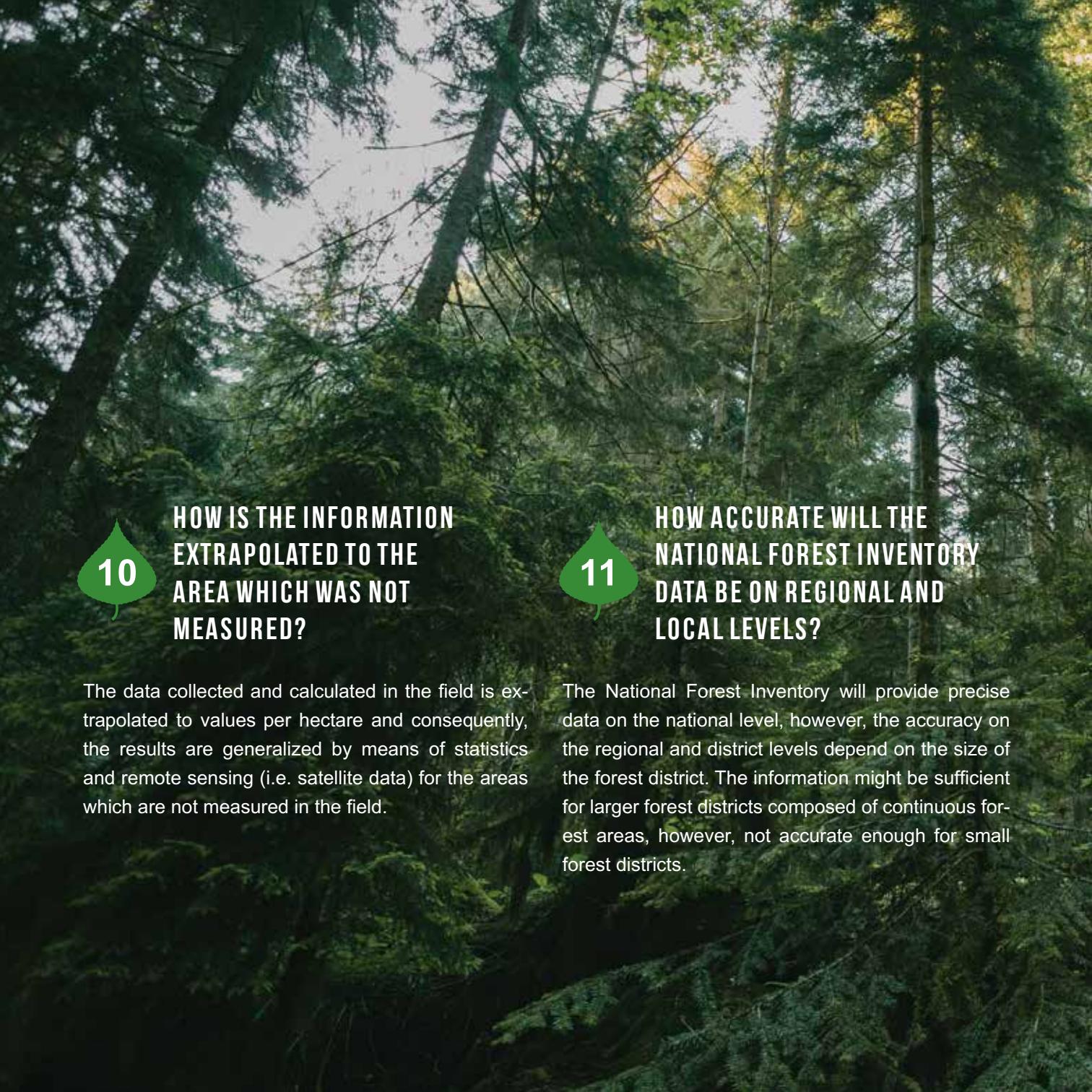
10 HOW IS THE INFORMATION EXTRAPOLATED TO THE AREA WHICH WAS NOT MEASURED?

The data collected and calculated in the field is extrapolated to values per hectare and consequently, the results are generalized by means of statistics and remote sensing (i.e. satellite data) for the areas which are not measured in the field.

11 HOW ACCURATE WILL THE NATIONAL FOREST INVENTORY DATA BE ON REGIONAL AND LOCAL LEVELS?

The National Forest Inventory will provide precise data on the national level, however, the accuracy on the regional and district levels depend on the size of the forest district. The information might be sufficient for larger forest districts composed of continuous forest areas, however, not accurate enough for small forest districts.

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WHAT IS THE DIFFERENCE BETWEEN THE INFORMATION GATHERED DURING THE NATIONAL FOREST INVENTORY AND THE DETAILED (FOREST DISTRICT) INVENTORY?

The aim of the district level inventory is to collect information on the forest stand level to develop the management plans. The National Forest Inventory, however, aims at generating nation-wide information on Georgian forests thus creating a basis for political decision making and long-term monitoring. Nevertheless, the National Forest Inventory is not a tool for providing sufficient information required for decision making on the district level due to the insufficient coverage of forest districts by the 3.6 x 3.6 km grid and, therefore, not accurate enough for managing a forest district.

13 WHY ARE THE NATIONAL FOREST INVENTORY MEASUREMENT POINTS PERMANENTLY MARKED AND WHAT IS THE REASON FOR KEEPING THIS INFORMATION CONFIDENTIAL?

Usually, a National Forest Inventory is repeated every 10 years with the aim of continuous monitoring of forest resources and adequate policy development. To enable registration of changes in some variables, i.e. increment of timber volume per hectare, the repetition on the exact same place is required. Due to this fact, the centres of the National Forest Inventory sample points are permanently marked and the information on the locations are stored in the database.

Meanwhile, it is critical to keep the information on marked locations confidential to prevent all kinds of external influence on the clusters. Unrestricted availability of the information would allow external manipulations e.g. illegal harvesting operations could be carried out in a way that it would not be captured by the National Forest Inventory field measurements.

14 HOW IS THE FIELD DATA PROCESSED?

The National Forest Inventory, including data collection and analysis, is conducted by using the Open Foris (OF) software package developed by FAO. The field data is collected by means of "OF Collect Mobile" which is installed on Android tablets. The data is then imported into "OF Collect" for data management and cleansing and subsequently "OF Calc" is used for analysing the data before creating reports with the support of "Saiku", an analytical tool.
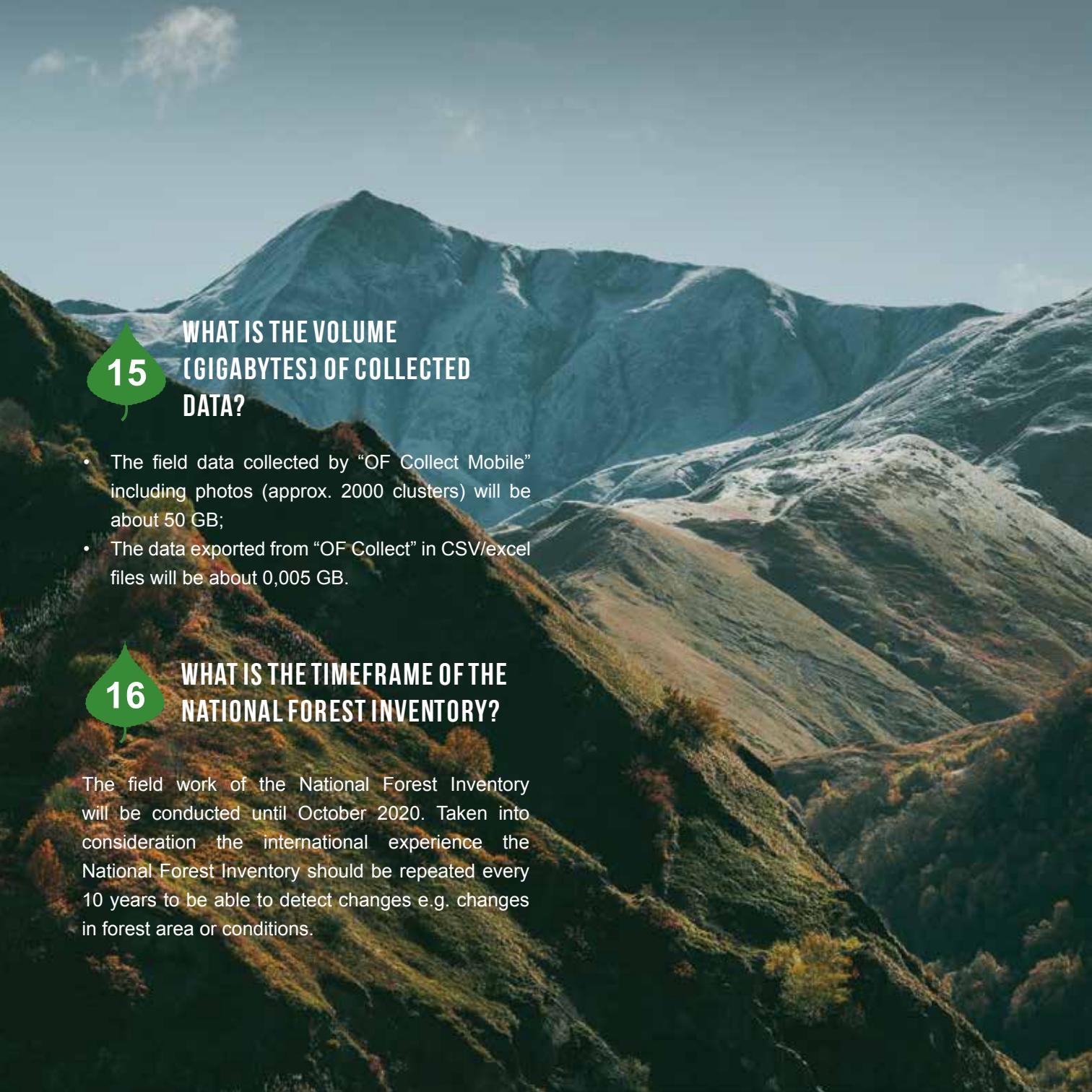
15   WHAT IS THE VOLUME (GIGABYTES) OF COLLECTED DATA?

- The field data collected by "OF Collect Mobile" including photos (approx. 2000 clusters) will be about 50 GB;
- The data exported from "OF Collect" in CSV/excel files will be about 0,005 GB.

16   WHAT IS THE TIMEFRAME OF THE NATIONAL FOREST INVENTORY?

The field work of the National Forest Inventory will be conducted until October 2020. Taken into consideration the international experience the National Forest Inventory should be repeated every 10 years to be able to detect changes e.g. changes in forest area or conditions.

17 DOES THE NATIONAL FOREST INVENTORY COVER THE ENTIRE TERRITORY OF GEORGIA?

The National Forest Inventory is envisaged for the entire territory of Georgia including Abkhazia and Tskhinvali region. However, since these regions are not accessible for the field teams, data retrieved via remote sensing is used as a main source of information. The National Forest Inventory is using satellite imagery to derive information for the forest areas that are not directly measured by the field teams.

18 IS IT POSSIBLE TO DEVELOP MAPS IN THE FRAMEWORK OF THE NATIONAL FOREST INVENTORY?

Field and remote sensing data are used for creating maps where a broad range of variables can be displayed, e.g. forest distribution, forest types, forest degradation, species distribution, biological diversity, and growing stock. Since the quality of such information cannot be evaluated beforehand, a final list of available maps can only be provided after the analysis of the National Forest Inventory data is finalized.
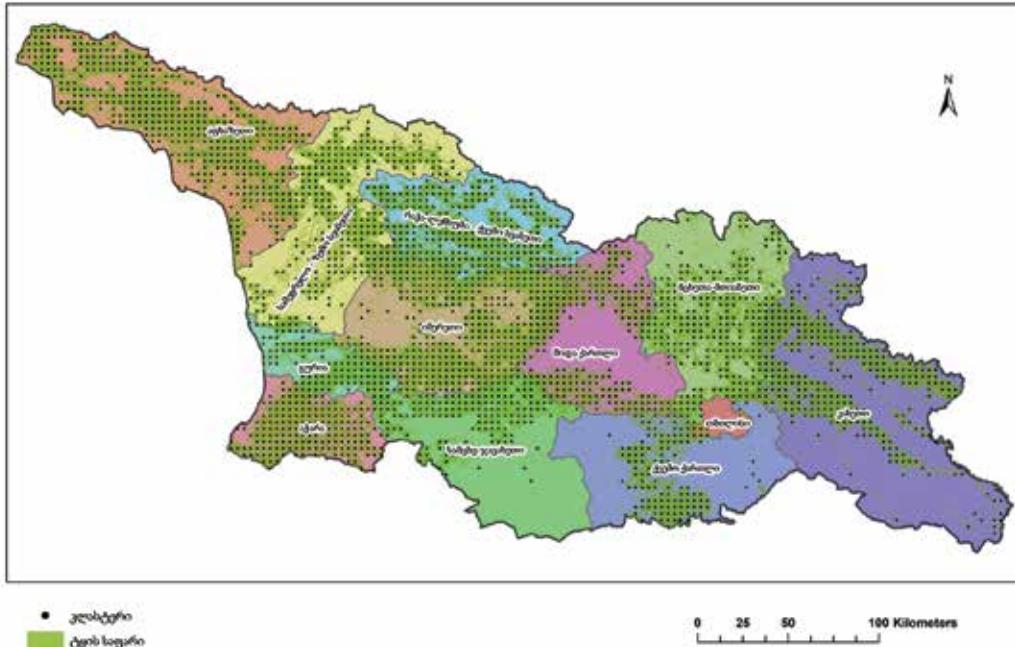
19 WHO CARRIES OUT THE NATIONAL FOREST INVENTORY?

The National Forest Inventory is implemented by the Ministry of Environment Protection and Agriculture of Georgia, supported by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, on behalf of the Federal Ministry of Economic Cooperation and Development (BMZ). GIZ pays special attention to the enhancement of Human Capacity in the partner organization to allow a continued recurrence of the National Forest Inventory in the future.

The involvement of interested stakeholders, governmental organizations, research institutions, universities, private-sector, and international organizations is essential for successfully implementing the National Forest Inventory in Georgia.
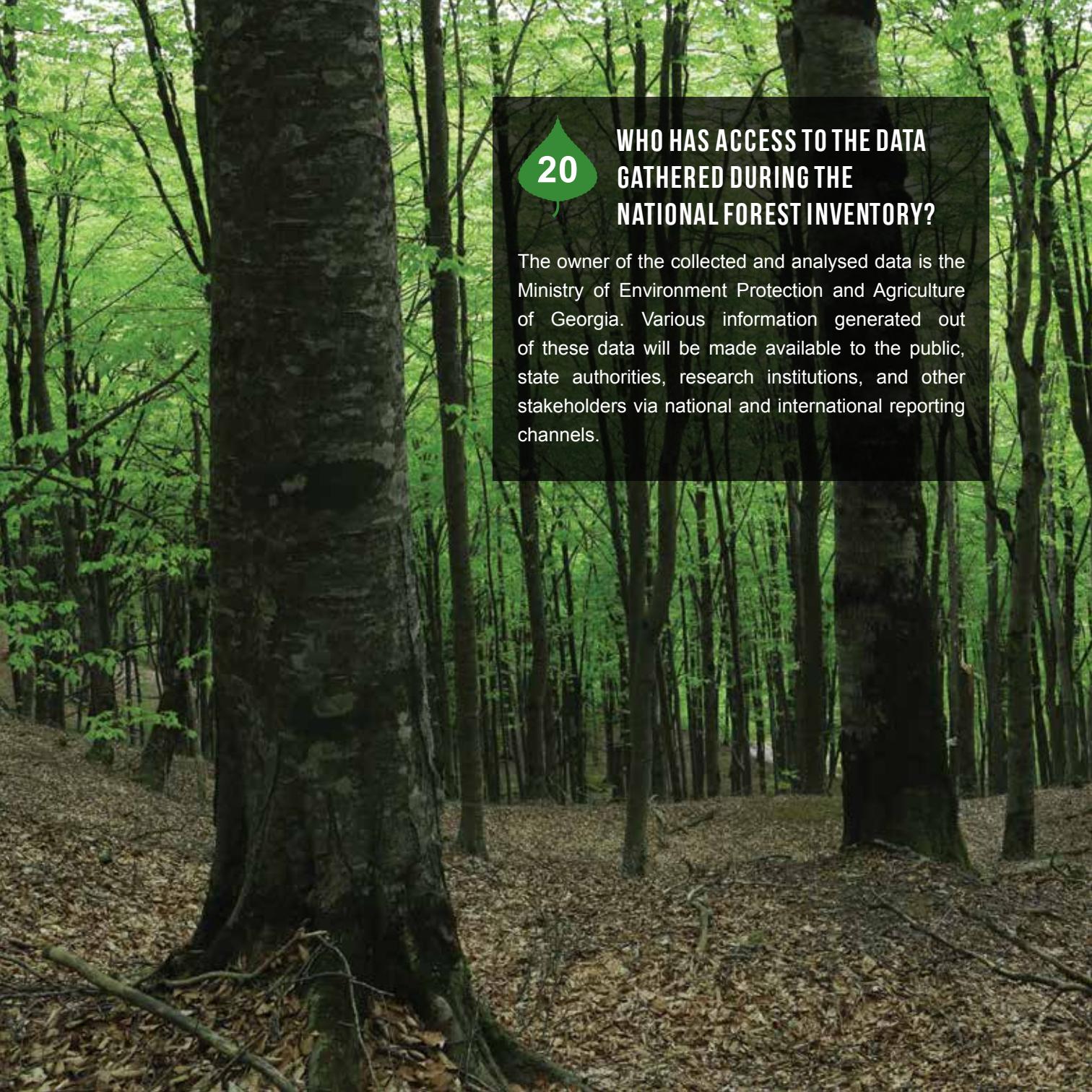
20 WHO HAS ACCESS TO THE DATA GATHERED DURING THE NATIONAL FOREST INVENTORY?

The owner of the collected and analysed data is the Ministry of Environment Protection and Agriculture of Georgia. Various information generated out of these data will be made available to the public, state authorities, research institutions, and other stakeholders via national and international reporting channels.