GLOBAL ENVIRONMENT FACILITY
INVESTING IN OUR PLANET

Ministry of Agriculture and Environmental Protection of the Republic of Serbia

Food and Agriculture Organization of the United Nations

Inception Conference GCP/SRB/003/GFF
« Contribution of Sustainable Forest Management to a Low Emission and Resilient Development »

THE SERBIAN NATIONAL FOREST INVENTORY - STATE OF THE ART AND PERSPECTIVES

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GCP/SRB/003/GFF
« Contribution of Sustainable Forest Management to a Low Emission and Resilient Development »

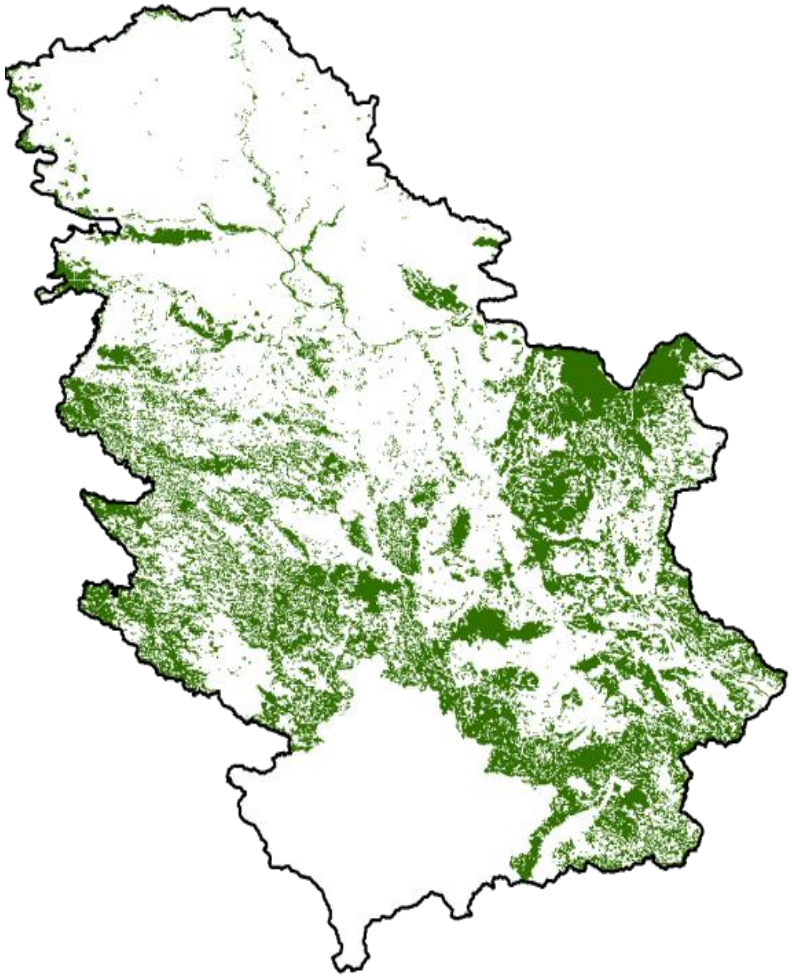
- NFI 1 (2003-2009)
- Experience gained

- GEF-6 full sized project (GCP/SRB/002/GFF)

  Project Outcome 1.1

  - NFI 2 / integrated national forest assessment and monitoring system

Serbia - Forest cover map



NFI - common objectives

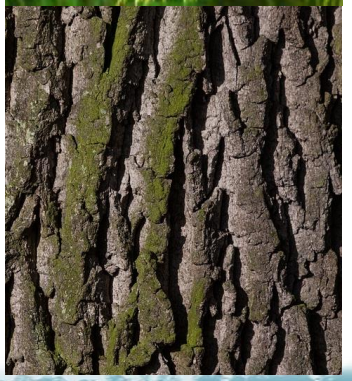
To record and assess extent and nature of forests, in a

- ❑ timely,
- ❑ accurate and
- ❑ reproducible manner

to enable the sustainable development of forest resource.

To provide reliable, current and consistent information

- for informed policy and decision-making,
- to fulfil national and international reporting commitments, and
- support forest research.



NFI information and its use

NFI information is used at the highest level, usually at the governmental level, in order to:

- define the national forest policy;
- translate this policy into forest-related laws and national programmes;
- create the necessary organizational set up to implement these programmes;
- intensify inter-sectoral cooperation;
- contribute to international reporting on forests (FE, FAO/FRA, etc.);
- report under UNFCCC/KP and CBD.

First National Forest Inventory (NFI 1)

2003 – pilot project

- "The National Forest Inventory of the Republic of Serbia"

2004 – 2006

- Terrestrial survey

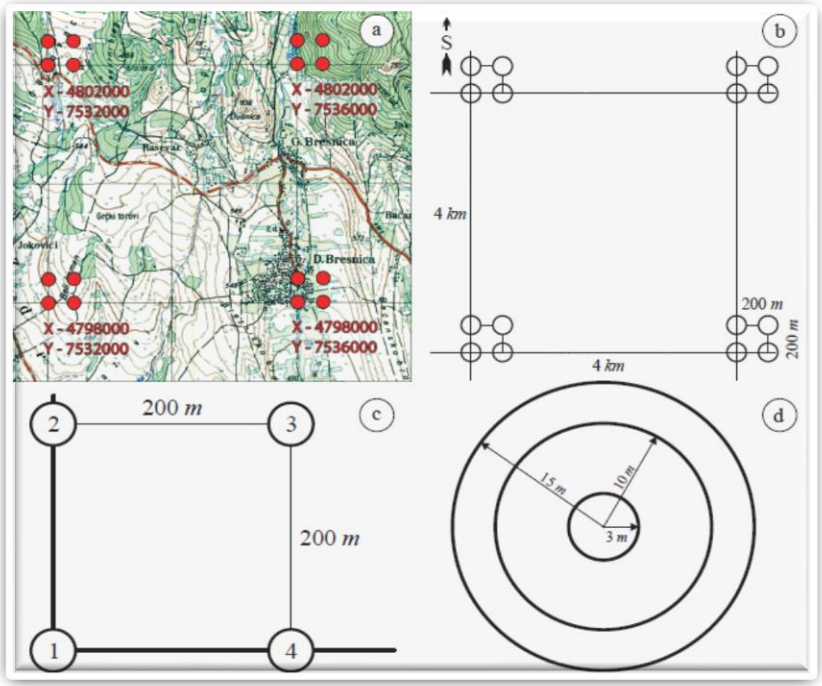
2007 – 2008

- Data processing and analysis

2009 – final report

- "The National Forest Inventory of the Republic of Serbia – The growing stock"

Sampling Design of NFI 1



a. Systematic sampling

b. NFI grid cell 4 km x 4 km

c. NFI cluster of 4 sample plots

d. NFI sample plot
(with three concentric circles)

Experiences gained / shortcomings

- One-phase NFI
  - forest area can not be calculated, forest changes not monitored.
- Previous NFI does not satisfy increasing demands for information
  - (biodiversity, carbon stock, land use change, etc.)
- Centre of previous NFI sample plots cannot be located for re-measurements
- Precision of NFI1 estimates not calculated
- No sampling error calculated
- NFI coordination team – should be permanent staff

NFI 2 – an Integrated National Forest Assessment

Basic principles

- new information needs addressed
  - (methodology, data collection, analysis, reporting)
- integrated cross-cutting resources inventory
- two-phases NFI:
  - photo-interpretation and terrestrial survey
- interrelated successive inventory established
- calculation of the precision of estimates
- reliable NFI estimates at country, regions and NUT2 level

GEF/SRB/002/GFF – Project output 1.1.1 - 1.1.2, 1.1.5

Information needs deriving from:

- ❑ Ministerial Conference on the Protection of Forest in Europe – Forest Europe C&I
- ❑ Global Forest Resource Assessment (FRA)
- ❑ United Nations Framework Convention on Climate Change (UNFCCC)/KP
- ❑ Convention on Biological Diversity (CBD)
- ❑ The United Nations Convention to Combat Desertification (CCD)

Information Needs for sound decision-making

- Good decisions require good data
  - make sure to have the right data

- Separate what is “Needed” from what is “Wanted”
  - ➢ make sure not to be inundated with unnecessary data
  - ➢ what is NEEDED to know
    - ✓ what already is known
    - ✓ information that must be gathered

Information Needs Assessment at national level

- ❑ What information is needed
- ❑ Who wants to know and when
- ❑ How will the information be used and how often

- What would happen if “they” did not have the information
- Willingness to pay for obtaining the information
- What information is already available
- What available information is useable
- What gaps remain to be filled
- How will the gaps be filled

Information Needs Assessment at national level

- Where to find existing information
- How to evaluate existing information
  - utility
  - suitability
  - thematic content
  - resolution
  - location
  - quality
  - scale
  - accuracy etc.

Integrated national forest resources assessment (NFI 2)

- Type of land cover/use
- Managed or unmanaged lands
- Amounts of biomass
- Availability for wood supply
- Planted or natural
- Native or exotic
- Changes in the above
- For all types of lands

Photo-interpretation

Main Objective: to determine forest area and changes in area:

- Identify Forest – Non-forest NFI Clusters/Sample Plots
  - (4x4 km / 2x2 km NFI grid)
- Estimate Forest area
  - (500x500 m/by vectoring forest limits)
- Identify Land cover and land cover change
  - (500x500 m/by vectoring forest limits)

Photo-interpretation

Main Advantages

- ✓ relatively low costs
- ✓ high precision
- ✓ only Forest Clusters will be visited in the field
  - ⟹ dramatic reduction of cost of Phase 2
- ✓ 500x500 m NFI grid – denser grid for the country
  - ⟹ integration of all other needed grids,
- ✓ provide valuable information for field work planning.

NFI 2 Sampling design

- NFI grid density
  - to be increased for areas with low forest cover

- Permanent sample plots
  - centre to be marked with metal stick for future re-measurement

- Sample plot area and structure
  - to be reconsidered

Extend the NFI information - Biodiversity

- Tree species composition
- Regeneration
- Naturalness
- Introduced tree species
- Protected forests
- Deadwood
- Genetic resources
- Threatened forest species
- Landscape pattern

Extend the NFI information – Carbon stock

- Carbon in above-ground biomass
- Carbon in below-ground biomass
- Carbon in dead wood
- Carbon in litter
- Carbon in soil

NFI Coordination Team

Permanent staff

Qualification requirements

- Forest inventory, forest management planning and forestry,
- GIS and photo-interpretation,
- Forest statistics,
- IT
- Logistics.

NFI 2 Cost estimate

Assumptions

- 4x4 km grid
- forest cover less than 7% (in plain area) ⟶ 2x2 km grid
  = 2200 forest clusters

- NFI Coordination team – 5 staff members
- 5 field teams for terrestrial survey – 2 members each
- Photo-interpretation; sample core and soil analysis
- 5 years NFI cycle

Rough NFI 2 cost estimate 1.600.000 Euro

Thank you for your attention!