



Supporting capacity building with online learning materials: FAO's NFI modules

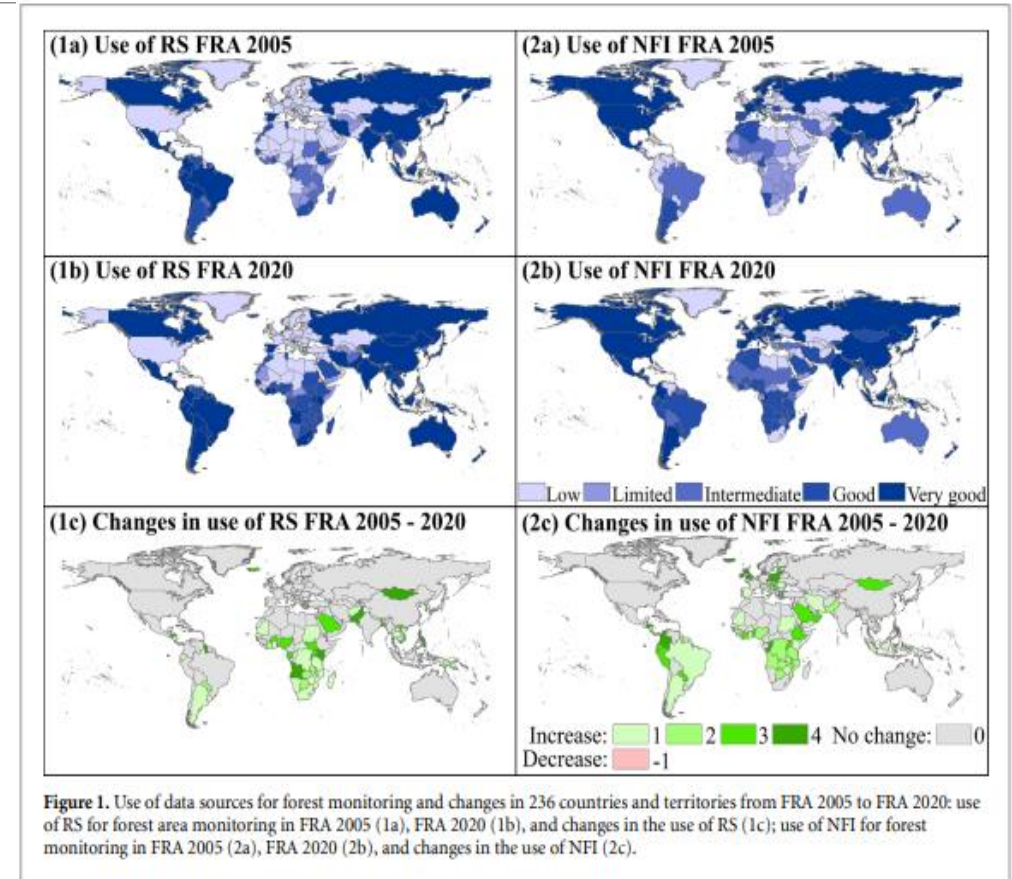
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State of NFM/NFI capacity globally

- Widespread capacity improvements in tropical countries linked to international investments for forest monitoring (REDD+)
- Number of countries with good to very good national forest inventories has more than doubled since 2005 - currently ~100 countries



But constraints persist...

Technical capacity constraints:

- Shortage of formally trained technicians in statistics, data analysis, biometrics, etc
- Lack of opportunities for continued enhanced training
- High turnover of technical staff – slow replacement

Institutional constraints:

- No formal legal framework for National Forest Monitoring System (NFMS)
- Inadequate planning of NFMS HR needs and identification of appropriate staff
- Lack of formal mandates to staff on roles and workflow
- Absence of management that advocate the cause

Financial constraints:

- Inadequate budgets to staff NFMS and guarantee reporting frequency needed
- Shortage of equipment/IT/connectivity

FAO NFI support over the years

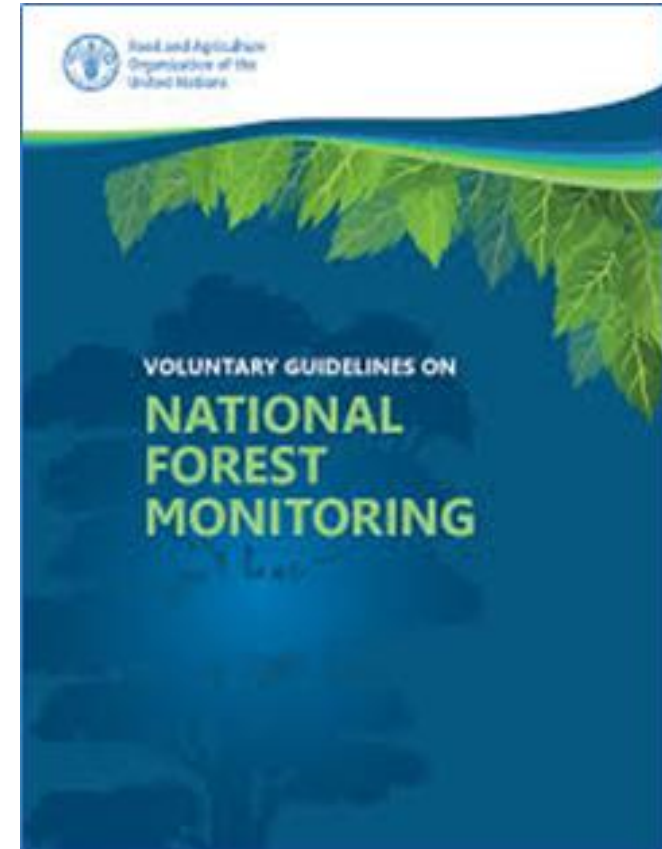
- Development of free and open source tools for data entry and analysis - Open Foris Suite of tools
- Continued software development – Open Foris online (Arena) launched 2021
- Project formulation support as requested by member countries
- Country-targeted capacity development on NFI planning and implementation

FAO NFI support over the years



Voluntary Guidelines on National Forest Monitoring

- Aimed at helping countries to develop strong NFMS
- Draw on experiences and lessons learned from FAO member countries and FAO national forest monitoring projects providing best practices
- Provide a framework and tools for planning and implementing multi-purpose national forest monitoring
- Establish the principles and elements of NFM



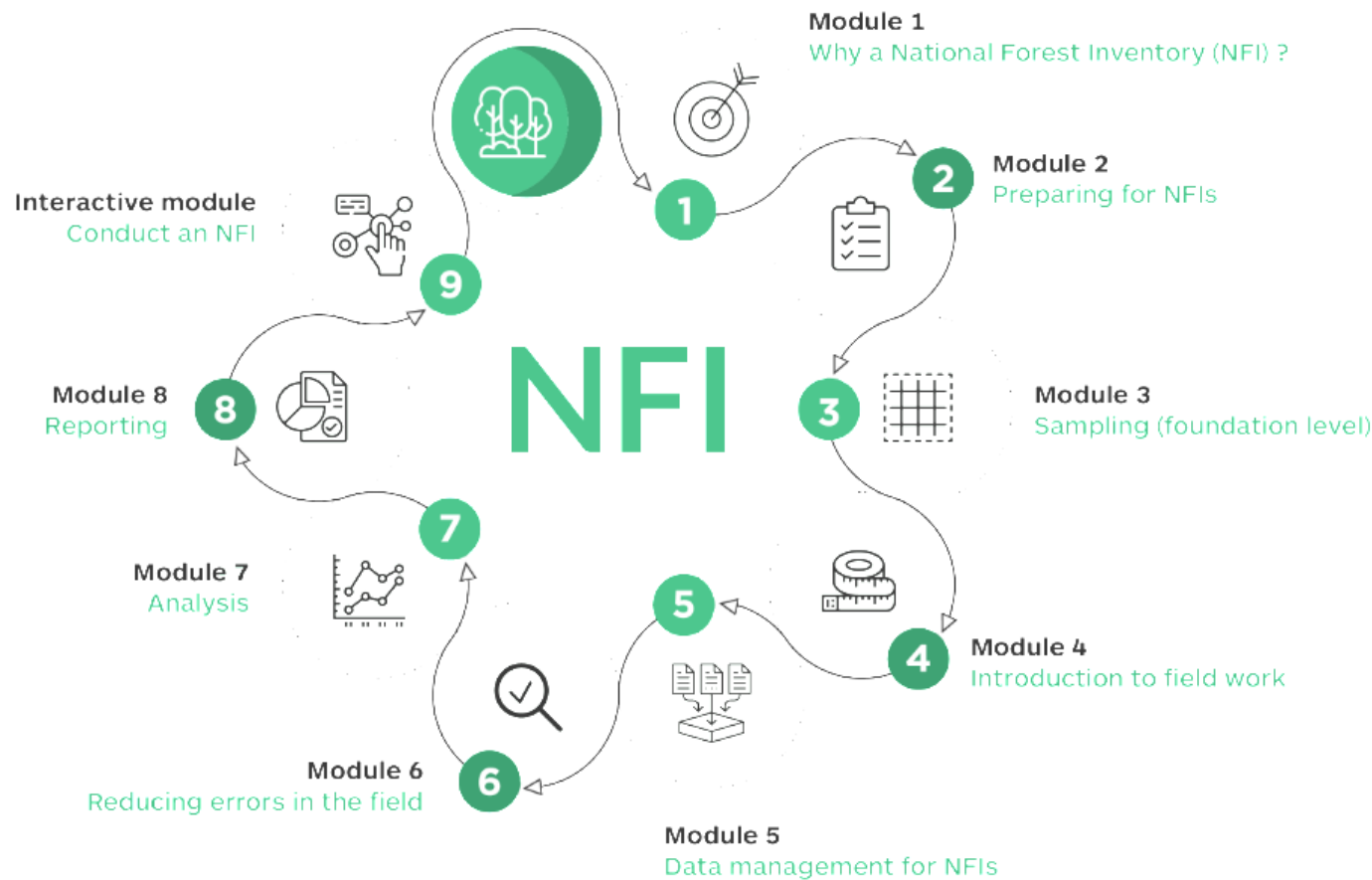
<http://www.fao.org/3/a-i6767en.pdf>



Why NFI elearning Modules?

- Need for clear and practical technical guidance addressing steps of NFI implementation to complement the VGNFM
- Plethora of academic material related to sampling, modelling, RS, but not much on NFI planning
- Pandemic-driven changes in capacity development
- Consolidate and update best practices for NFI in order to enhance institutional memory

What are the NFI elearning Modules?



- Set of standardized e-learning courses on NFI planning and implementation
- Primer with accessible language and structure – upon which more complex lessons can be built
- Dynamic/living resource
- Developed with academic partners: Göttingen University professors Christoph Kleinn and Lutz Fehrmann
- Complement FAO guidance

NFI Modules: Platform & Content

Module 1. Why a National Forest Inventory

Module 2. NFI Preparation and strategizing*

Module 3. Sampling

Module 4. Let's Go to the Field

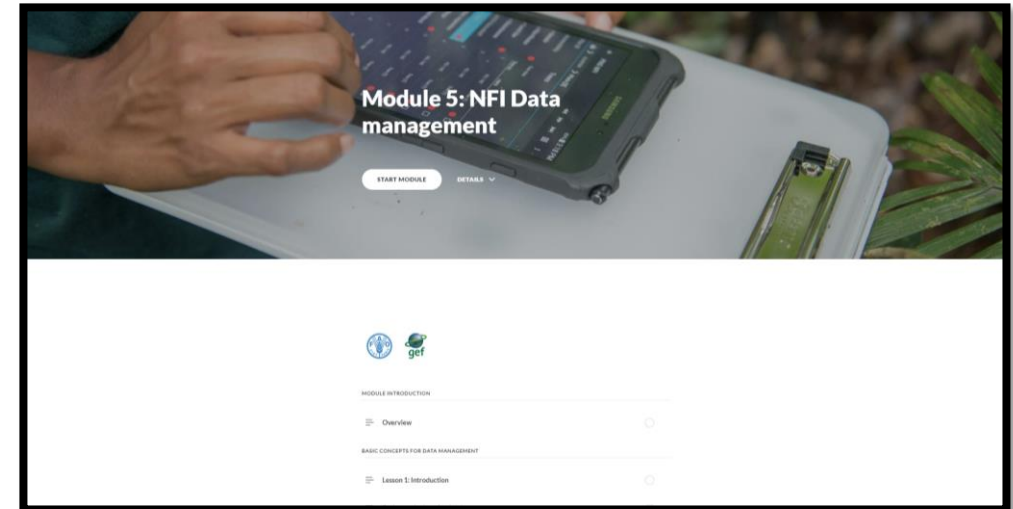
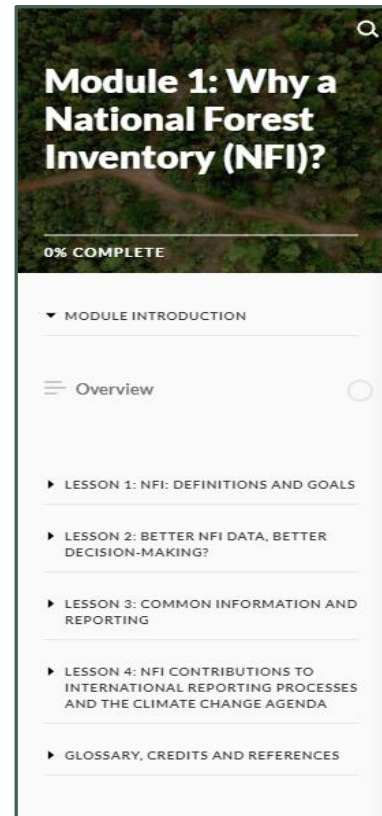
Module 5. Data Management

Module 6. Reducing errors in the field

Module 7. Data Analysis*

Module 8. Reporting, dissemination & data archiving*

Module 9. Interactive Module

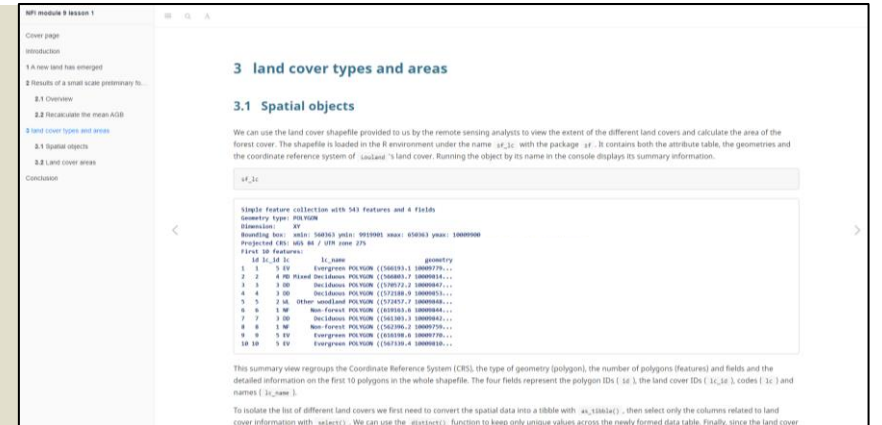


NFI Modules: Audience

- Designed for:
 - Forest inventory practitioners responsible for implementing their country's NFI
 - Youth and new generations of foresters
 - Students in academia
- Not meant to replace formal forest academic curriculum but to complement it
- Serves as a primer that provides baseline understanding to a broad forestry audience
- Can be fine-tuned and tailored in workshops and classrooms, creating a learning continuum

NFI Modules: What's next?

- Publish remaining Modules
- Include interactive features for users to apply learning directly within the course (data analysis in R)
- Add lessons with interactive features on analysis for specific purposes, such as estimating emission factors
- Add more Modules/lessons over time based on feedback from key country counterparts and partners
- Translate into French and Spanish



The screenshot shows a web application interface for a lesson titled "3 land cover types and areas". The page includes a navigation menu on the left and a main content area. The main content area displays a table of land cover data with columns for polygon ID, land cover ID, and name. Below the table, there is a summary of the data and instructions on how to use the data for analysis.

```
Single Feature collection with 543 Features and 4 Fields
Geometry type: POLYGON
Dimension: 2D
Bounding box: WGS84: 548363 yml; 993990 wml; 450263 yml; 1000000 wml
Projected CRS: WGS 84 / UTM zone 27S
Field ID Features:
  id | id | l_name | geometry
  ---|---|---|---
  1 | 1 | 0 00 | Evergreen POLYGON ((1040193.1 10000779.0...
  2 | 2 | 4 00 | Mixed Deciduous POLYGON ((1040891.7 10000814.0...
  3 | 3 | 0 00 | Deciduous POLYGON ((1040751.2 10000847.0...
  4 | 4 | 0 00 | Deciduous POLYGON ((1071028.9 10000813.0...
  5 | 5 | 2 00 | Other woodland POLYGON ((1070475.7 10000846.0...
  6 | 6 | 1 00 | Non-Forest POLYGON ((1019542.8 10000844.0...
  7 | 7 | 0 00 | Deciduous POLYGON ((1041281.2 10000841.0...
  8 | 8 | 1 00 | Non-Forest POLYGON ((1042090.2 10000779.0...
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  10 | 10 | 0 00 | Evergreen POLYGON ((1041710.4 10000810.0...
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Please take a look and provide feedback!
bit.ly/3m5VEsE



Thank you for your attention!

