

## The case

The need for improving national forest monitoring systems is overwhelming as the demand for information has never been greater. In particular, new challenges require continuous adaptation to address emerging information needs. National forest programmes, policies and strategy processes are striving to address cross-cutting issues such as poverty alleviation and food security related to the multiple functions of forests in social, environmental and economic domains. International fora request countries to report regularly on a variety of forest and environment related issues, and civil society is increasingly concerned and needs to be informed.

*Comprehensive, representative and accurate information is needed on the management and use of forests and natural resources*

Yet, in many countries, information is outdated, partial or subjective, and in most cases the precision and accuracy of the data are unknown. Consequently, scenario development and planning may be inaccurate as proper knowledge for decision making is lacking.

## The support

Upon request, FAO supports countries in their efforts to close this knowledge gap by implementing field inventories and establishing forest information services. FAO's programme to support holistic and cost efficient national forest monitoring and assessment (NFMA) has been active since 2000 in a growing number of countries. What started as a series of pilot projects has now developed into full scale support programme for national forest monitoring and assessment (NFMA) and integrated land use assessments (ILUA).

*NFMAs enable data driven decision making*

NFMA provides a basis for national-level analysis and planning, broadens the knowledge base on forestry in a country, and enhances national capacities to monitor land uses and trends. Statistical rigour makes it possible to aggregate findings at the national level, thus creating new knowledge that outlines interactions and interdependencies between forests and other land uses.

## The inventory methodology

The methodology is based on nation-wide sampling and field data collection. While field work is the back-bone of the inventory process, remote sensing is used as a complementary tool to map land uses and land use changes on full cover or sample basis. Where feasible, ecological zoning can be used to stratify and intensify the field work in critical areas.

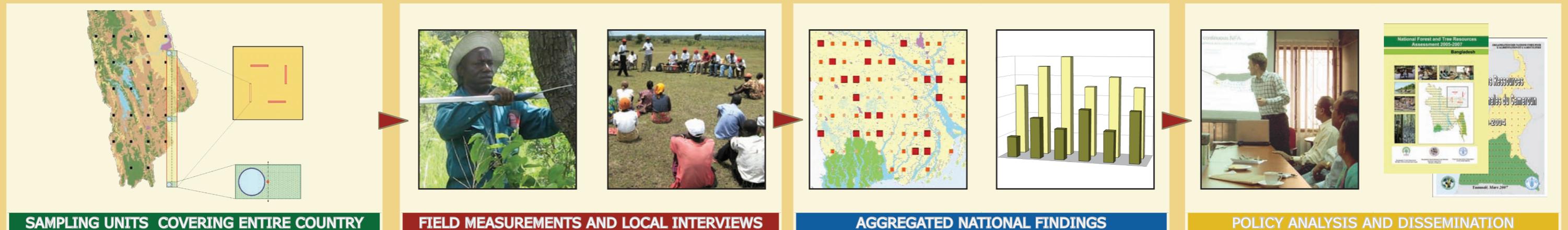
*Field data are recorded onsite with the help of people who have local knowledge*

The assessment method is based on systematic sampling, applying units with nested plots and subplots to inventory different parameters. Inventory data are collected in the sample units by field teams with the involvement of local people who provide information on forest resources, dependence, utilization and management. Global Positioning System and current technological tools assist the fieldwork. Some countries also include additional parameters focused on household surveys that are used to gather a range of livelihood data. This data may then be analyzed by national experts to identify policy relevant indicators that can aid national level decision making.

The mass of data is stored in an electronic database, which is then incorporated into national forest information services in support of nfps, national land use policies and legislation and to promote knowledge sharing among government and research institutions. The results are published and distributed locally and internationally through reports and informational material. The data and information are used by policy makers, planners, managers, investors and local communities.

## Capacity building

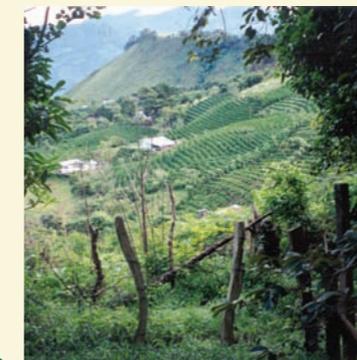
The main objectives of the NFMA programme includes strengthening the ability of countries to update, expand and manage their forestry information base for their own benefit. National professionals lead all components of the assessment under supervision by FAO specialists. Field teams are trained in inventory techniques and carry out all fieldwork. NFMAs help to increase the awareness of the multiple functions of forest and trees and their contributions to national economies, food security and poverty alleviation in rural areas.





# FAO Support to National Forest Monitoring and Assessment

*monitoring the world's forestry resources ....*



## Forestry and beyond

NFMAs typically cover not only forest resources on forest lands but also trees outside forests. They encompass a wide set of biophysical and socio-economic variables that can be transformed into harmonized information and knowledge on the social, economic and environmental benefits of forests and trees, their management, uses and users. The information generated includes: extent of forest types and land use, growing stocks, environmental problems, biomass and carbon, biological diversity, use and management of the forest resources and non-wood forest products. Information needs vary and evolve with time according to the context and circumstances in each country. In some countries the assessment is extended to an ILUA by collecting information on other land uses such as crops, livestock, soil and water. Integrating the assessment and monitoring across forest, agriculture and other sectors offers a better understanding of ecosystem services and functions and creates possibilities for analysing overall land management and developing coherent policies.

## NFMA in the world

As of 2009, FAO has worked with over 50 countries in all regions of the world in addressing national forest monitoring and assessment needs. Direct support to NFMAs has been provided in over 15 countries that have implemented national field inventories in collaboration with FAO and 20 more countries are expected to follow suit. All requests for support are demand-driven by countries. Regional workshops have gathered more than 30 countries for dialogues on improving national monitoring of natural resources.



\* FAO supported countries for the implementation of NFMA/ILUA (as of 2009)

Contact us at: [www.fao.org/forestry/site/nfma](http://www.fao.org/forestry/site/nfma)

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