



## National Forest Monitoring and Assessment

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# **NFMA - Knowledge Reference, Dissemination and Networking**

*Background Paper prepared for the National Forest Monitoring and Assessment [NFMA] Expert Consultation "Meeting Evolving Needs". Rome - 26-28 November*



## National Forest Monitoring and Assessment

Forests are crucial for the well being of humanity. They provide foundations for life on earth through ecological functions, by regulating the climate and water resources and by serving as habitats for plants and animals. Forests also furnish a wide range of essential goods such as wood, food, fodder and medicines, in addition to opportunities for recreation, spiritual renewal and other services.

Today, forests are under pressure from increasing demands of land-based products and services, which frequently leads to the conversion or degradation of forests into unsustainable forms of land use. When forests are lost or severely degraded, their capacity to function as regulators of the environment is also lost, increasing flood and erosion hazards, reducing soil fertility and contributing to the loss of plant and animal life. As a result, the sustainable provision of goods and services from forests is jeopardized.

In response to the growing demand for reliable information on forest and tree resources at both country and global levels, FAO initiated an activity to provide support to national forest monitoring and assessment (NFMA). The support to NFMA includes developing a harmonized approach to national forest monitoring and assessments (NFMA), information management, reporting and support to policy impact analysis for national level decision-making.

The purpose of the NFMA initiative is to introduce countries to an alternative approach designed to generate cost-effective information on forests and trees outside forests, including all benefits, uses and users of the resources and their management. Special attention is placed on monitoring the state and changes of forests, and on their social, economic and environmental functions. Another main objective is to build national capacities and harmonize methods, forest related definitions and classification systems among countries.

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More information on FAO Support to National Forest Monitoring and Assessment can be found at: [www.fao.org/forestry/site/nfma](http://www.fao.org/forestry/site/nfma)

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By Marco Piazza

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## INTRODUCTION

It is generally agreed that the need for updated information and knowledge on natural resources is continuously increasing. Discussions on viable methodologies for assessing forest resources are currently on-going at world level, in response to a greater attention to issues such as climate change and the need to quantify biomass and carbon stocking. At the same time, the demand for data collection and analysis, as a base for better decisions making at the national level, has become more complex in recent years since forest policies are shifting to a more holistic approach.

The growing amount of information and knowledge gathered, however, would have little impact if it is not properly packaged for dissemination among a network of interested parties. The need of going beyond the mere accumulation of knowledge clearly applies also to the work of FAO's support to National Forest Monitoring and Assessment (NFMA) programme.

Since its creation, the NFMA team has worked and developed projects following a conceptual framework that includes consecutive phases, starting from information requirement analysis; acquisition of data; data organisation, safeguarding and processing; analysis and reporting (info packaging); and policy development. Each of these phases, which apply to both NFMAs and Integrated Land Use Assessments (ILUA), present the opportunity and the need to develop knowledge, formalize it and share it with interested parties in a continuous process, with the information of one phase feeding into the next.

This continuous process can be summarized and analyzed by defining three main areas: *knowledge reference*, *dissemination*, *networking*. The three areas are tightly interlaced, often overlapping and with each item having a meaning only in the presence of the other two.

In the context of NFMA, knowledge reference (KR) represents the body of citable material assembled to serve as reference and guidance to those dealing with forest and integrated land use surveys. A general framework of inventory methods is accompanied by country specific material addressing contextual needs.

Dissemination should be the natural consequence of production: if final reports and working papers are produced rigorously, it is their active dissemination that truly may have an impact. In particular, country reports and information should have a capillary diffusion among the entities that will benefit from it.

The process of networking follows inevitably. It is through linked people that knowledge reaches the furthest branches. Not only, the flow of information within a network allows the input of new approaches, improvements, and success stories, all contributing to maintain the body of information fresh, up-to-date and usable.

In the context of NFMA, KR, Dissemination and Networking apply to both the global and the national level. At the global level it is crucial that NFMA staff participate in discussions and international meetings to interact with other stakeholders and to promote the NFMA approach. At the national level it is equally important that information is effectively distributed and promoted among local organizations to ensure a concrete impact at the level of decision making

## OBJECTIVES

The purpose of this document is to provide an overview of the work developed by the NFMA team with regard to Knowledge Reference, Dissemination and Networking, both at the global and the national (country) level. This paper also presents possible topics for further discussion as well as suggestions for improvements, in terms of methods and technical tools that can be used to improve the overall activities related to knowledge creation and dissemination.

Additionally, in a background paper on Information Management, prepared for the last NFMA Expert Consultation (in 2006), among others, two points for discussion were highlighted:

- Information from NFMA [NFA/ILUA] should be presented in a way that makes it easier for decision makers and stakeholders to interpret the findings. This requires writing non-technical “stories” of how the observed trends in forests affect people, their lives and their communities. The reporting must go a step further from the simple presentation of findings to the ‘so what’ analysis.
- Information from NFMA [NFA/ILUA] should be ‘scalable’ in its presentation in order to meet the needs of a larger audience and to make it politically viable, i.e. findings should be presented with the perspective of multiple users at both national and sub-national level.

This paper, and following discussions, offers the opportunity to assess the progress made and to highlight cases where the above objectives have been reached.

## KNOWLEDGE REFERENCE

The [Knowledge Reference for National Forest Monitoring and Assessments](#) provides a world-wide resource for foresters, scientists, teachers and other stakeholders. It is used in FAO's support to develop and implement national forest monitoring and assessments in developing countries, and can be used for free, for example as teaching material. The Knowledge Reference was developed jointly by FAO, IUFRO Division 4, SIDA, and the Swedish University of Agricultural Sciences. The first review was made in 2003 leading to its launch online in 2005.

This subject paper gives a background on the objectives for National Forest Assessments, assuming NFMAs are a potent tool to influence and monitor policy processes. At the same time, the paper also discusses how the policies in countries affect the NFMA-process. Furthermore, the paper describes the past and present role of NFMA and the outlined future trends in NFMA, the synergistic relationship between ecological, economic and social functions of forests with the overall objective of providing a link between the national work of the NFMA and the other parties, in particular the academic world.

An action that had been planned at the launch of the KR is the establishment of a global professional network on national forest monitoring and assessments which was created only informally during the development of the KR. At the present stage, with a body of knowledge structured and available on line, the necessary step would be to enhance it and improve its dissemination using the channels of a professional network. Alternative ways of packaging the material should also be considered in order to respond to the needs of audiences with different requirements. This means structuring the material in sub- modules available individually on line for download and possibly also in hard copy. The restructuring of the knowledge reference material would also offer the opportunity to produce a set of 'guidelines for NFMAs'.

Parallel to this, the formal creation of a professional network would facilitate the process of dissemination of the KR as well as other processes as discussed below in the Networking section of this paper.

The concept of KR can certainly be applied at the local level. The establishment of a knowledge reference at the country level is undeniably one of the main objectives of NFMA projects. At each stage of the project development, knowledge is not only transferred from FAO to the country but also vice versa and the support should be directed at helping to gather information and organize it in a systematic, accessible and transmittable form. In this sense, knowledge is both *what* (data) and *how* (methods of data collection) and the know-how of the entire project evolution (publications, dissemination and training material in the local language, database) become knowledge that can be used and replicated by the countries independently of FAO.

### KNOWLEDGE REFERENCE - Items for Discussion:

- How can current Knowledge Reference be improved, packaged and made accessible in order to benefit a wider audience?
- How to use KR material to enhance relationships and collaborations between institutions?
- How to guide countries to take ownership of their body of knowledge in a way that it can be self sufficient?
- How to support countries in packaging reference materials for dissemination?

## DISSEMINATION

The need to disseminate the NFMA concept and approach is gaining importance as the debate at the global level has intensified, also in light of REDD discussions. As a consequence, many actors are stepping forward with new approaches and methodologies for forest and land use monitoring and assessment making this field more competitive and stimulating.

Information dissemination at country level is just as important, if not more. The awareness of NFMA activities and findings within a country is crucial at all stages: before inventory starts, during field work, and at project ending when results have been analyzed and aggregated.

NFMA information dissemination, both at global and country level, occurs through a variety of channels, some more traditional while others in line with the latest technological applications. Examples of dissemination means are given below.

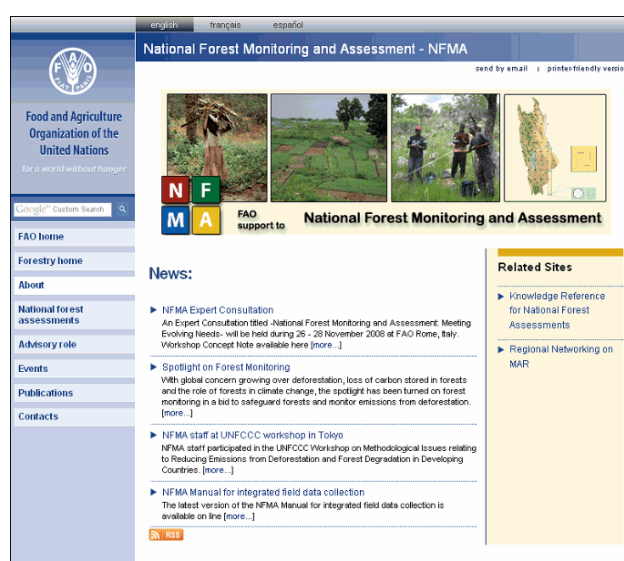
### ■ NFMA WEB SITE

The [NFMA web site](#) is the main repository of public information as well as a tool for dissemination. The site has been built using *foris*, a Content Management System (CMS) developed by FAO-Forestry. *Foris* offers a wide (and growing) range of features for on-line interactions, within the so called Web 2.0 applications. In this regard, *foris* represents a unique and exemplary approach within FAO and NFMA staff is following this development closely in order to take full advantage of the opportunities offered.

The site contains technical reference material including sections on the NFMA rationale, approach, objectives, and inventory methodology as well as all publications produced (e.g. Working Papers, Country Reports). NFMA latest News and Events are also displayed on the site.

New features have recently been added to the site to allow for a greater interaction with website users and a facilitated dissemination of the content. Examples include RSS (Really Simple Syndication, see box 1) also known as news feed. This feature allows users to subscribe to NFMA feeds and be directly informed when new items are added. Another way to take advantage of newsfeeds is to add them to feeds aggregators which are collection of feeds arranged by thematic interest. Currently, NFMA news are included in GFIS and Agrifeeds (see box 2). In addition, the service offered by delicious (see box 1) is being tested on our site. This feature not only can be useful to NFMA staff but also is one form of networking through sharing common interest web-links. Another tool currently being tested is traffic logs which allow having a clearer picture of who the users are, what pages are the most visited and other valuable information that would help improve the site to better serve the users.

It should also be pointed out that the NFMA web site should not be seen just as a window to the external world but also as a support tool to perform work in a fast and efficient manner by providing a quick-access to the most updated information



NFMA website screenshot



## ▪ NFMA WEB SITE – COUNTRY PAGES

Within the main NFMA website there are country-pages for each project in progress or completed. These pages contain country specific information such as planning and methodology documents (project proposals, field manual, field forms for inventory), final reports, as well as the list of country contacts and partners involved in the project. A set of images of the work in the field is also available. All this is done with the purpose of making available all relevant information and also to facilitate the cooperation with countries by showing examples of how projects were carried out.

## ▪ PUBLICATIONS

NFMA publications are also available on the website. They include technical and thematic working papers documenting the evolution of the program and the development of new areas of investigation of NFMAs and ILUAs. In addition, several country specific publications are also provided: country final reports, country policy reports, field manuals (in English, Spanish, French and Russian). These documents show examples of how the main NFMA framework is customized for country specific needs and requirements.

### box 1

#### Really Simple Syndication [RSS]

A web-based standard that delivers information to users in an easily accessible, sharable and 'remixable' format. Information publishers such as bloggers, news organizations, and podcasters use it to broadcast their regularly updated content so that it can quickly and easily be picked up by other media. <http://en.wikipedia.org/wiki/RSS>

#### delicious.com

Delicious is a social bookmarking service that allows users to tag, save, manage and share web pages from a centralized source. With emphasis on the power of the community, Delicious greatly improves how people discover, remember and share on the Internet. <http://delicious.com/>

## ▪ PROMOTIONAL MATERIAL

The NFMA group has recently updated its brochure with a recognizable design and updated information. The design is also used to characterize NFMA working papers. In addition, thematic brochures have been produced to highlight the relevance and contribution of NFMA methodology to world wide current hot-topics such as Biodiversity and REDD.

At country level the crafting of promotional material is of key importance. A number of channels have been used within countries to promote and raise awareness of NFMA activities. Examples include, flyers, brochures, summaries of findings, as well informational material for the press, radio and television.

## ▪ INTERNATIONAL MEETINGS

A successful way to expose NFMA to a wider audience, both technical and donor agencies, has been through the participation in international events. This served both for presenting the NFMA program as well as confronting ourselves with current

### box 2



The Global Forest Information Service (GFIS) provides the framework to share forest-related data and information through a single gateway. It promotes the dissemination and sharing of forest and tree-related information and knowledge among the global forestry community by developing common information exchange standards, building capacity and enhancing partnerships among forestry information providers and users. GFIS - An Initiative of the [CPF](#) led by [IUFRO](#), gateway maintained by [Metla](#). - <http://www.gfis.net/>



Agrifeeds is a service that allows users to search and filter news and events from several agricultural information sources. It's a "one-stop shop" on recent news and upcoming events related to agriculture. <http://www.agrifeeds.org/>

discussion at global level and to stay up to date with evolving issues such as the development of the UN-REDD process.

Examples of international meetings attended by NFMA staff [in 2008]:

- UNFCCC's Workshop on Methodological Issues relating to Reducing Emissions from Deforestation and Forest Degradation in Developing Countries  
25 – 27 June 2008 in Tokyo, Japan
- The twenty-eighth sessions of the Subsidiary Body for Scientific and Technological Advice (SBSTA) and the Subsidiary Body for Implementation (SBI) of the United Nations Framework Convention on Climate Change. 4-13 June 2008, Bonn, Germany
- Convention on Biological Diversity (CBD) -SBSTTA 13 (CBD - Subsidiary Body on Scientific, Technical and Technological Advice ). 18 to 22 February 2008, Rome, Italy
- Direct involvement of the NFMA staff in the MAR Japanese funded project - Strengthening Monitoring, Assessment and Reporting (MAR) on Sustainable Forest Management (SFM) in Asia (GCP/INT/988/JPN)

## ▪ DATA OWNERSHIP AND UTILIZATION

An issue that would require more attention than the one given in this paper is the actual dissemination and utilization of the data: the results of the inventory work. The key question is: once a database is created with information on the status and characteristics of forest and land use in a specific countries, how can the data be effectively used? There are many aspects of this issue, for example how to ensure that data are diffused among interested parties within a country and, ultimately, be a key component for the development of forest policies. A related issue is the one about data ownership. This becomes crucial when scientific organizations express the interest to use NFMA country data for research. A clear protocol for dealing with these situations should be put in place. This issue has also a technical aspect: what is the most appropriate tool for presenting the data in a simple and logical way that allows users to query the database for specific variables? The NFMA team is currently investigating, through an ad-hoc consultancy, the possibility of using *pc-axis* (see box 3) as the platform for making the databases available to a wider audience and thus share fully the results of the inventories.

### box 3

The **PC-Axis** family consists of a number of programs for the Windows and Internet environment used to present statistical information. It is mostly used by the Statistical offices in different countries to let their users retrieve statistics. PC-Axis has been promoted by FAO Statistics Division to become the standard for displaying statistics on the web at FAO. More information here: <http://www.pc-axis.scb.se/>

## DISSEMINATION - Items for Discussion:

- Further channels for raising the global awareness of the NFMA approach
- Linking NFMA website to thematic portals and links-lists
- What are appropriate means of dissemination within countries also considering areas where web-access is difficult?
- To what extent are countries using the data produced with the NFMA?
- Formulation of a protocol regulating data ownership and sharing.

## NETWORKING

The concept of networking can be broadly defined as “the use of formal and informal linkages of individuals, groups, or institutions for the purpose of facilitating productive relationships for the exchange of knowledge, services, skills, and contacts”.

The NFMA process is implemented with a participatory approach involving a wide range of actors engaged in the forestry or related sectors through expert meetings or multi-disciplinary steering committees. These are all favourable occasion to promote networking and interaction among the project’s participants.

At the global level, networking occurs mostly in an informal way, through a group of reference people that are periodically invited to give their input in expert consultations or specific consultancies. At the country level, networking consists in the relationship among the various stakeholders that take part in the development of a NFMA/ILUA project.

The idea of an official NFMA Network is something that should be looked at closely to assess opportunities and objectives. A formal NFMA platform, involving experts, current and past projects personnel (TCDCs), and university departments (among others), would serve the purpose of spreading the awareness of NFMA and promoting a discussion for the improvement and refinement of the methodology and approach. At the country level, a formal network would improve the awareness of the NFMA process, and would help in maintaining high the level of attention throughout the duration of a project keeping all stakeholders involved and closely connected.

Once a network is formalized, there are several methods for managing the flow of information exchange. Selection of the appropriate tool depends on the objective of the network and also whether internet connectivity is an issue or not. The database of contacts can be managed using *foris* while Email List Management Softwares (e.g. *LISTSERV*®) could be used to regulate the communication. Other tools allow greater interaction and additional features, for example *Dgroups* (see box 4) or *Wikipages* (multiple editor content management) which facilitate collaborative process while producing documents.

### box 4



Dgroups is an online home for groups and communities interested in international development. In Dgroups, one can find the online tools and services needed to support the activities of a team, a group, a network, a partnership or a community. Dgroups is also a place to find groups who are interested in the same topics in international development as you.

<http://www.dgroups.org/>

The organizations behind Dgroups have formed the [Dgroups Partnership](#). Current partners include [Bellanet](#), [DFID](#), [Hivos](#), [ICA](#), [ICCO](#), [IICD](#), [OneWorld](#), [UNAIDS](#) and [WorldBank](#). Member organizations include [CGIAR](#), [CIDA](#), [CTA](#), [Danida](#), [FAO](#), [IDRC](#), [INASP](#), [KIT](#), [SNV](#), [Sida](#), [SDC](#), and [UNECA](#).



A wiki is a web site that allows users to add, remove, and otherwise edit and change content. At its core, a wiki is a simple online database in which each page is easily edited by any user with a Web browser; no special software or third party webmaster is needed to post content. It also allows for linking among any number of pages. Each article contains a discussion page where editors and readers can talk about the document. By looking at the history of a page, users can track changes and compare the versions of a document. This ease of interaction and operation makes a wiki an effective tool for collaborative writing.

<http://www.wikipaces.com/>

#### NETWORKING - Items for Discussion:

- Advantages, limitations and objectives of the establishment of a global professional network on national forest assessments.
- Advantages, limitations and objectives of the establishment of network of stakeholders in country projects.

## CONCLUSIONS

The main activities of NFMA in the areas of Knowledge Reference, Dissemination and Networking have been highlighted. They include a range of traditional (hard copy) and web based content and methods for dissemination. Past experiences offer the opportunity to evaluate the effectiveness of various approaches and should be the basis upon which plan possible improvements. These could be formalized, at least at the country level, as a “package” of activities to be included in the projects’ work plans.

The possibilities for increased communication, both at the global and the local level, are abundant and NFMA has the option to select those that best fit objectives and country needs. The technical tools that have been introduced (in the boxes) are only some of what is currently available. A thorough list of Knowledge Sharing Tools and Methods is available from a FAO-CGIAR collaborative project here (<http://www.kstoolkit.org/>).

The underlying message throughout this paper is that actions aimed at referencing knowledge and its dissemination among a network should be considered as a crucial component of NFMA activities. At the local level, dissemination and networking activities during the development of a project would increase the sense of participation of the various stakeholders and motivate countries to take full ownership of the NFMA process. The discussion on the methodologies for assessing forest resources has recently gained significant momentum at the global level. NFMA should therefore make sure that its approach is well known globally with the objective of building partnerships with international players in the field of forestry resources monitoring. The upcoming NFMA Expert Consultation, which will bring together different stakeholders including donor agencies and national representatives, is the optimal occasion for further discussing opportunities of improved collaboration among international agencies taking full advantage of the wide range of knowledge and expertise.