



International Forestry Policies Seminar: The role of National Forest Data and Information



Chair of Forest Inventory and
Remote Sensing
Burckhardt-Institute
Faculty of Forest Sciences and
Forest Ecology

“PROMOTING NATIONAL FOREST INVENTORIES - FAO'S LESSONS LEARNED”

FAO Forestry

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IN THIS PRESENTATION



- **WHY DO WE CARE ABOUT NATIONAL FOREST INFORMATION?**
A general perspective
- **FAO supporting Forest Monitoring**
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- **FAO's NATIONAL FOREST MONITORING AND ASSESSMENT PROGRAMME**
Brief introduction
- **QUICK OVERVIEW ABOUT NFI IN THE TROPICS**
- **THE VOLUNTARY GUIDELINES ON NATIONAL FOREST MONITORING**
Brief introduction

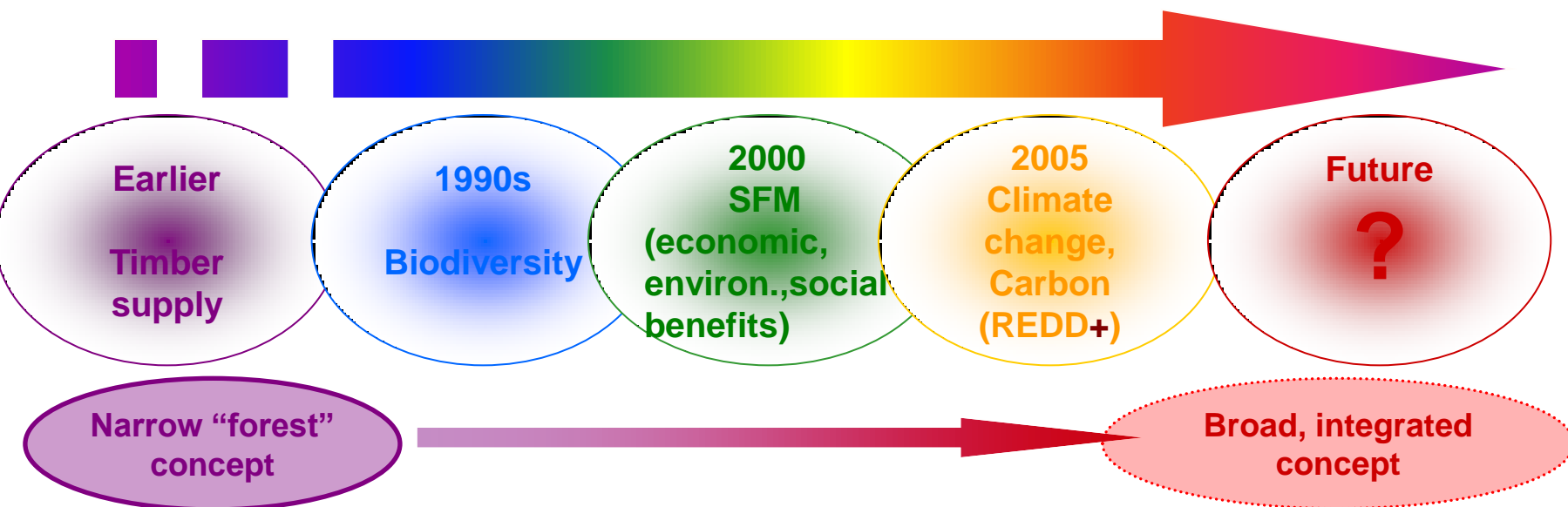


WHY DO WE CARE ABOUT NATIONAL FOREST INFORMATION?



NFIs AN EVOLVING PROCESS

- ... to respond to evolving needs



WHY DO WE CARE ABOUT NATIONAL FOREST INFORMATION?



A general perspective

Information on:

- Extent of forest resources
- Biological diversity
- Forest health and vitality
- Protective functions of forest resources
- Productive functions of forest resources
- Socio-economic functions of forest resources
- Institutional and legal framework



NATIONAL FOREST MONITORING

FOREST INVENTORY CONCEPT



Forest Inventories

- Proper mid-term planning
- To optimize forest management

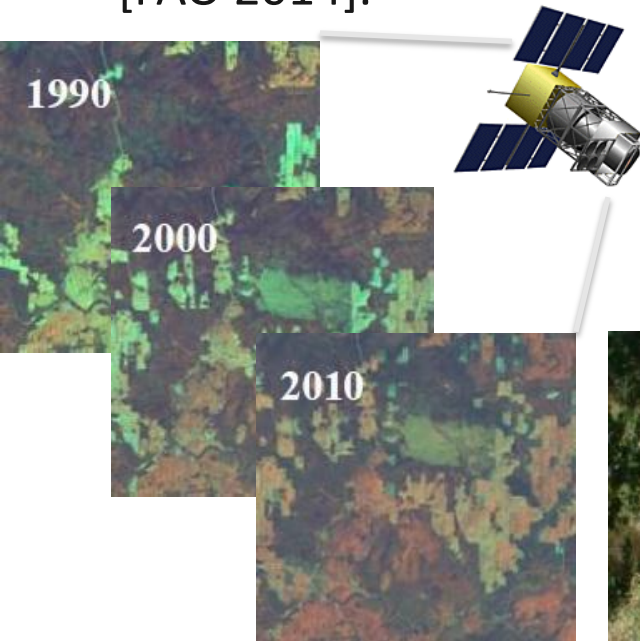


NATIONAL FOREST MONITORING

CONCEPT



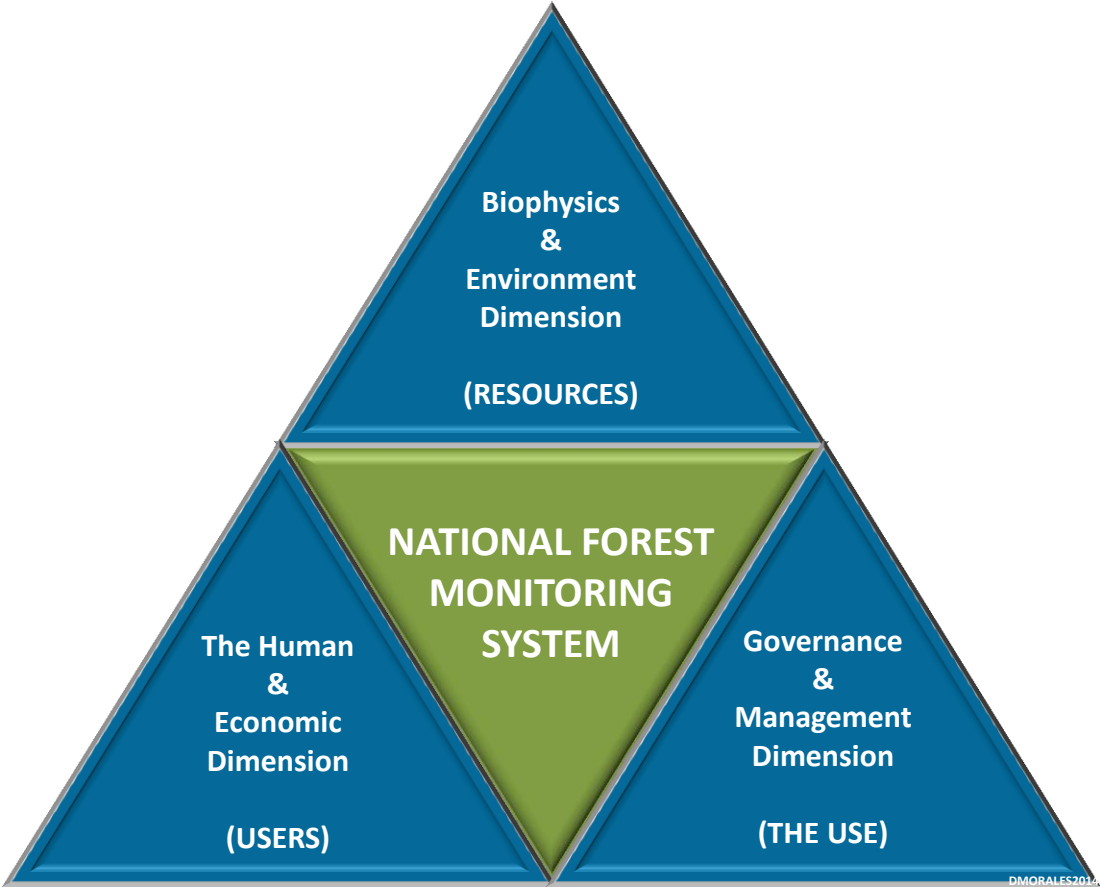
A comprehensive process that includes the collection, analysis and dissemination of forest-related data and the derivation of information and knowledge at regular intervals to allow the monitoring of changes over time. It focuses on national level data and information on forests and trees outside forests, their condition, values and uses. The information obtained supports forest-related decision making at international, national and sub-national levels by providing timely, relevant and reliable information [FAO 2014].



NATIONAL FOREST MONITORING SYSTEM



DIMENSIONS OF A NATIONAL FOREST MONITORING SYSTEM



FAO SUPPORTING NFIs

FAO mandate

When the FAO was established, one of its core functions was to collect, analyze and disseminate information on agriculture, ***forestry*** and fisheries.

This is still the case and stems from the simple but powerful belief that ***better information leads to better decisions, which lead to better actions.***

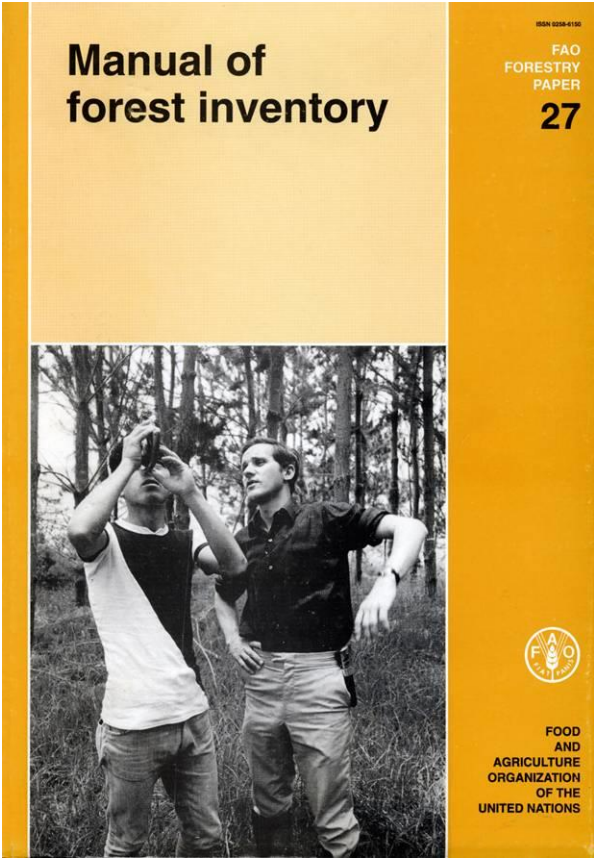


FAO SUPPORTING NFIs



FAO mandate

- Long history at FAO (from the 50's)



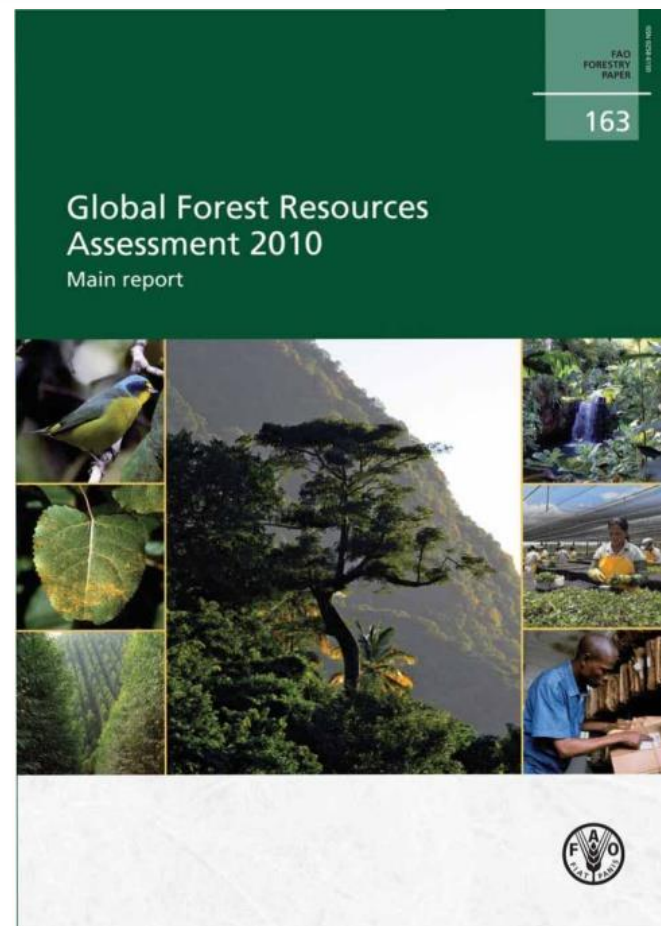
GLOBAL FOREST RESOURCES ASSESSMENTS (FRA)

FAO mandate

FAO has been monitoring the world's forests at 5 to 10 year intervals since 1946.

The Global Forest Resources Assessments (FRA) are now produced every five years in an attempt to provide a consistent approach to describing the world's forests and how they are changing.

The Assessment is based on two primary sources of data: Country Reports prepared by National Correspondents and remote sensing that is conducted by FAO together with national focal points and regional partners.



GLOBAL FOREST RESOURCES ASSESSMENTS (FRA)

FAO mandate



- 11 global assessments since 1948, each different from the one before
- Assessment methods regularly improved
- Demands for data/definitions evolving
- An emphasis on change from 1980 onwards
- Remote sensing included in 1980 and 2000



Brief introduction

- **The National Forest Monitoring and assessment programme was created in 2000 with the aim of:**

**Strengthen national capacities
for long term
forest monitoring and assessment**



OVER 15 YEARS NFMA COUNTRY COLLABORATION

16 completed:

- Algeria -Tanzania
- Bangladesh
- Cameroon
- Costa Rica
- Gambia
- Guatemala
- Honduras
- Kenya (pilot)
- Kyrgyzstan
- Lebanon
- Nicaragua
- Philippines
- Zambia
- Comoros island
- Uruguay

13 currently in process:

- Angola -Chile
- Brazil
- Congo
- Peru
- Zambia 2
- Panama
- Ecuador
- Viet Nam
- Paraguay
- Ethiopia
- PNG
- Bangladesh

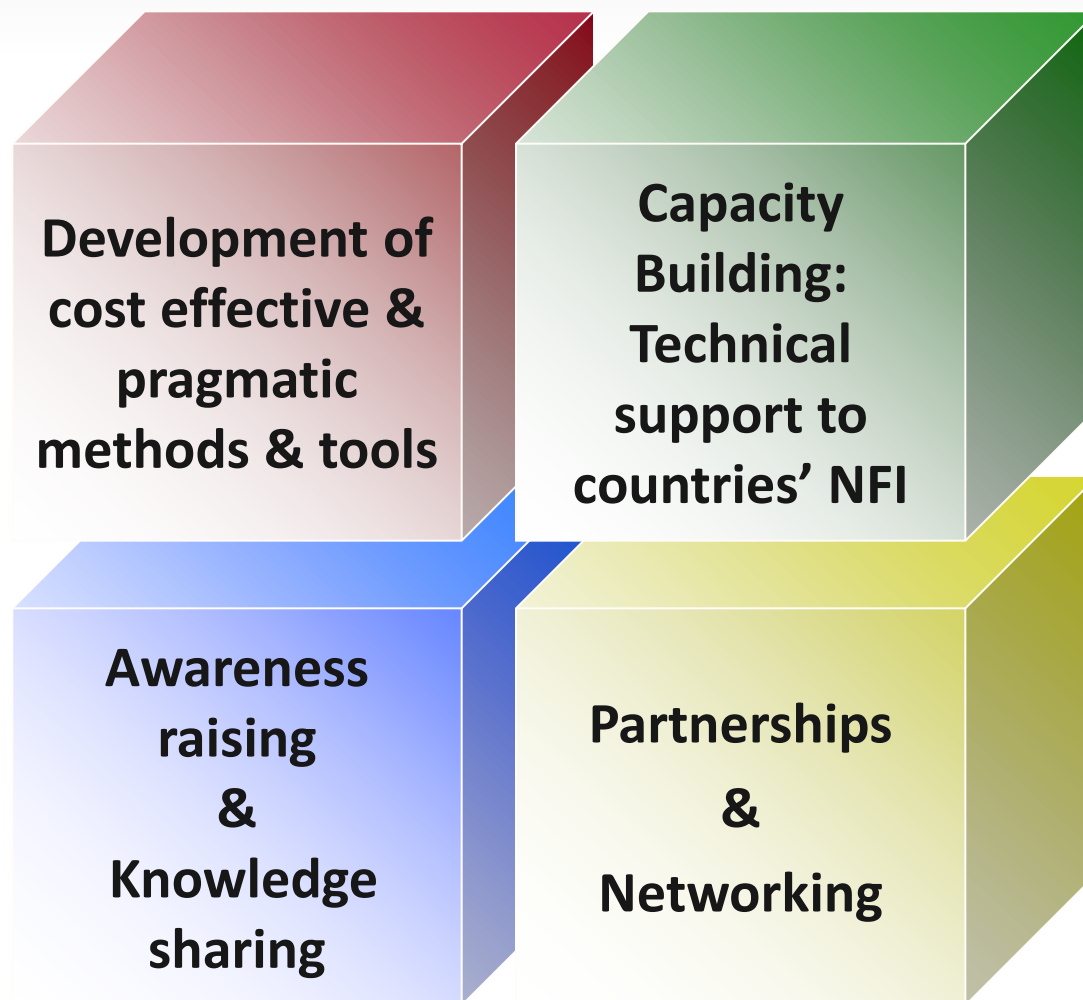
In the Pipeline or initiating :

- DRC
- Indonesia
- Cambodia
- Colombia
- Uganda
- Among others..



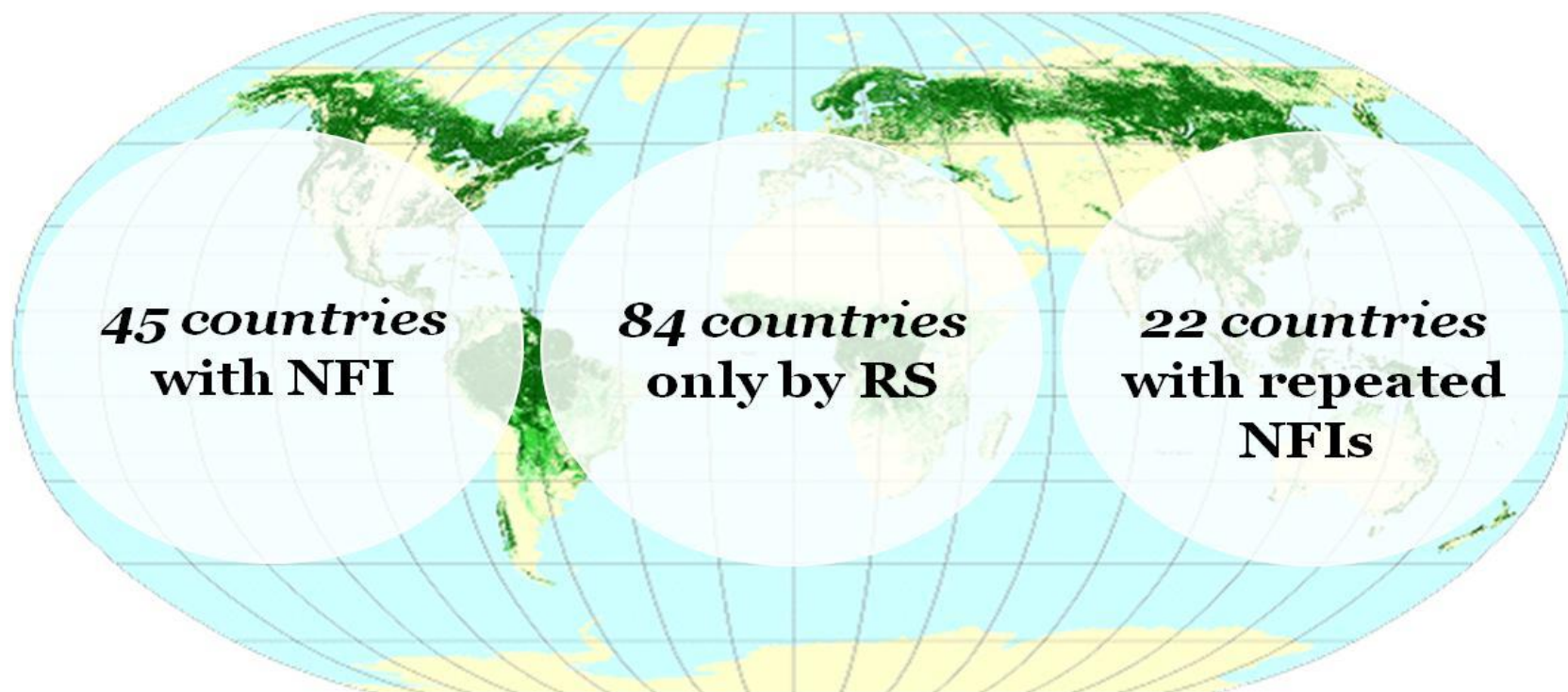


MAIN WORKING AREAS





Existing knowledge on forests and their benefits is inadequate



Data status on forests (FRA 2010)

QUICK OVERVIEW ABOUT NFIs IN THE TROPICS)

62 (out of 96) Tropical Countries have “recent” National Forest Inventories

1. American Samoa
2. Benin
3. Burkina Faso
4. Bangladesh
5. Brazil
6. Bhutan
7. Botswana
8. Colombia
9. Comoros
10. Cape Verde
11. Costa Rica
12. Cuba
13. Dominican Republic
14. Ecuador
15. Ghana
16. Guadeloupe
17. Gambia
18. Equatorial Guinea
19. Guatemala
20. French Guiana
21. Guam
22. Guyana
23. Honduras
24. Indonesia
25. India
26. Jamaica
27. Kenya
28. Lao People's Democratic Republic
29. Saint Lucia
30. Sri Lanka
31. Madagascar
32. Mali
33. Myanmar
34. Mozambique
35. Mauritania
36. Malaysia
37. Oman
38. Panama
39. Peru
40. Philippines
41. Palau
42. Papua New Guinea
43. Puerto Rico
44. Sudan
45. Senegal
46. Sierra Leone
47. Somalia
48. South Sudan
49. Sao Tome and Principe
50. Suriname
51. Swaziland
52. Seychelles
53. Thailand
54. United Republic of Tanzania
55. Uganda
56. Uruguay
57. Venezuela
58. Viet Nam
59. Wallis and Futuna
60. South Africa
61. Zambia
62. Zimbabwe

QUICK OVERVIEW ABOUT NFIs IN THE TROPICS)



... of which 39 Countries have NFI with aerial/remote sensing sample based AND/OR wall to wall coverage

NATIONAL FOREST INVENTORY	... OF WHICH WITH REMOTE SENSING	NATIONAL FOREST INVENTORY	... OF WHICH WITH REMOTE SENSING	NATIONAL FOREST INVENTORY	... OF WHICH WITH REMOTE SENSING
American Samoa		Guyana		Puerto Rico	X
Benin		Honduras	X	Sudan	X
Burkina Faso		Indonesia	X	Senegal	X
Bangladesh	X	India	X	Sierra Leone	
Brazil		Jamaica		Somalia	X
Bhutan		Kenya		South Sudan	X
Botswana		Lao People's Democratic Republic	X	Sao Tome and Principe	
Colombia		Saint Lucia	X	Suriname	X
Comoros	X	Sri Lanka		Swaziland	X
Cape Verde		Madagascar	X	Seychelles	X
Costa Rica	X	Mali	X	Thailand	X
Cuba		Myanmar	X	United Republic of Tanzania	X
Dominican Republic	X	Mozambique	X	Uganda	
Ecuador	X	Mauritania	X	Uruguay	X
Ghana	X	Malaysia	X	Venezuela	X
Guadeloupe	X	Oman	X	Viet Nam	X
Gambia	X	Panama		Wallis and Futuna	
Equatorial Guinea		Peru	X	South Africa	X
Guatemala		Philippines	X	Zambia	
French Guiana		Palau	X	Zimbabwe	
Guam	X	Papua New Guinea	X		

Source: McDicken , Tropical Countries reporting to FRA 2015, personal communication. April 2015, Rome, Italy

QUICK OVERVIEW ABOUT NFIs IN THE TROPICS)

15 countries with continuous NFI using aerial/remote sensing sample based AND/OR full coverage



COUNTRIES WITH CONTINUOUS NFI	... OF WHICH REPORT INCLUSION OF REMOTE SENSING
Brazil	
Bhutan	
Cuba	
Guam	X
Guyana	
India	X
Madagascar	X
Malaysia	X
Oman	X
Peru	X
Senegal	X
Suriname	X
United Republic of Tanzania	X
Uruguay	X
Wallis and Futuna	

GLOBAL FOREST RESOURCES ASSESSMENTS (FRA)

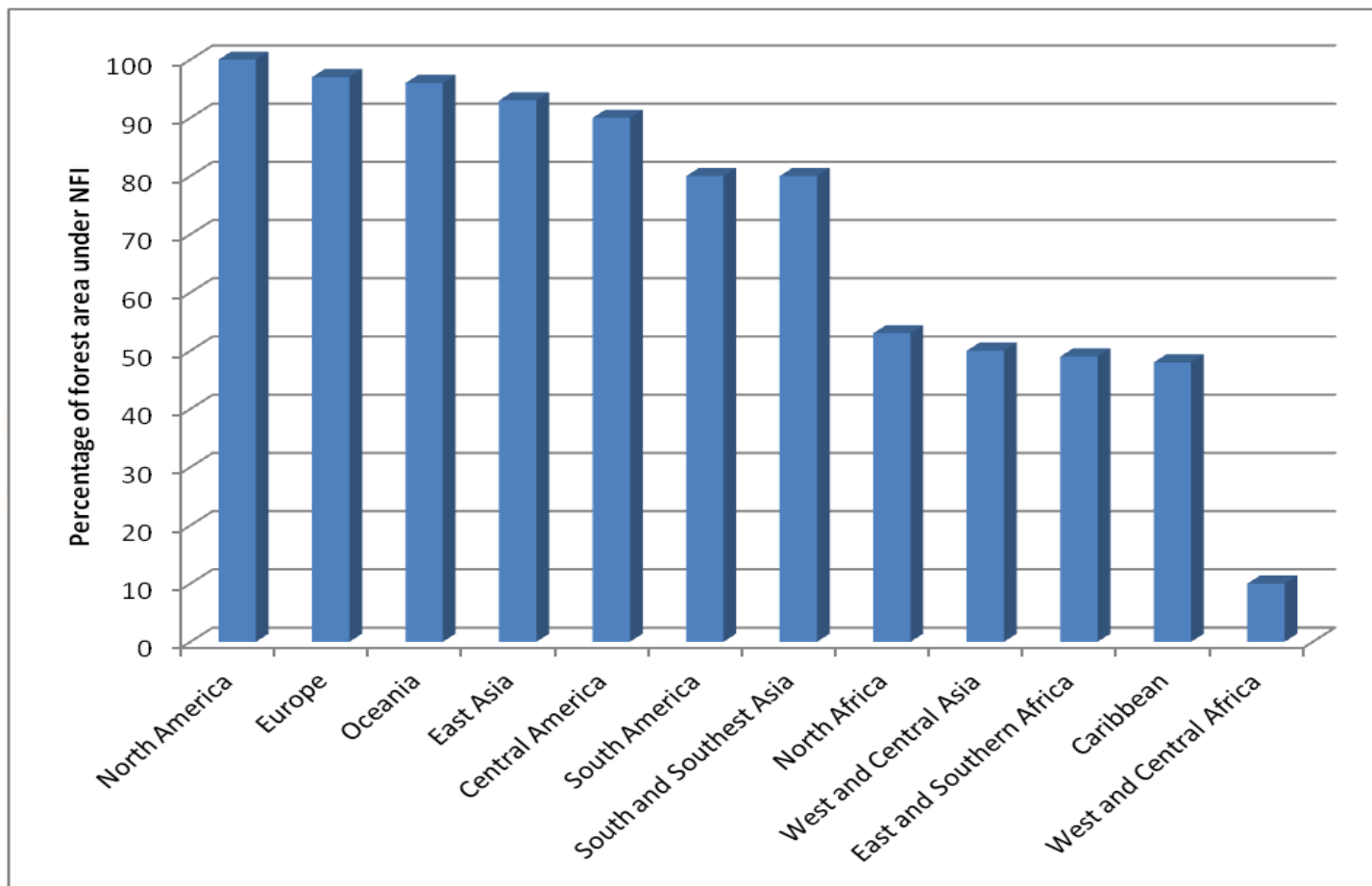
Periodic NFI using Aerial/Remote sensing sample based AND/OR full coverage

COUNTRIES WITH PERIODIC NFI (37)	... OF WHICH COUNTRIES WITH REMOTE SENSING (24)	COUNTRIES WITH PERIODIC NFI (continued)	... OF WHICH COUNTRIES WITH REMOTE SENSING
American Samoa		Panama	
Benin		Philippines	X
Burkina Faso		Palau	X
Botswana		Papua New Guinea	X
Comoros	X	Puerto Rico	X
Cape Verde		Sudan	X
Costa Rica	X	Sierra Leone	
Ecuador	X	Somalia	X
Guadeloupe	X	Sao Tome and Principe	
Gambia	X	Suriname	X
Honduras	X	Seychelles	X
Indonesia	X	Thailand	X
Jamaica		Venezuela	X
Kenya		Viet Nam	X
Lao People's Democratic Republic	X	Wallis and Futuna	
Saint Lucia	X	South Africa	X
Sri Lanka	X	Zambia	
Myanmar	X	Zimbabwe	
Mozambique	X		

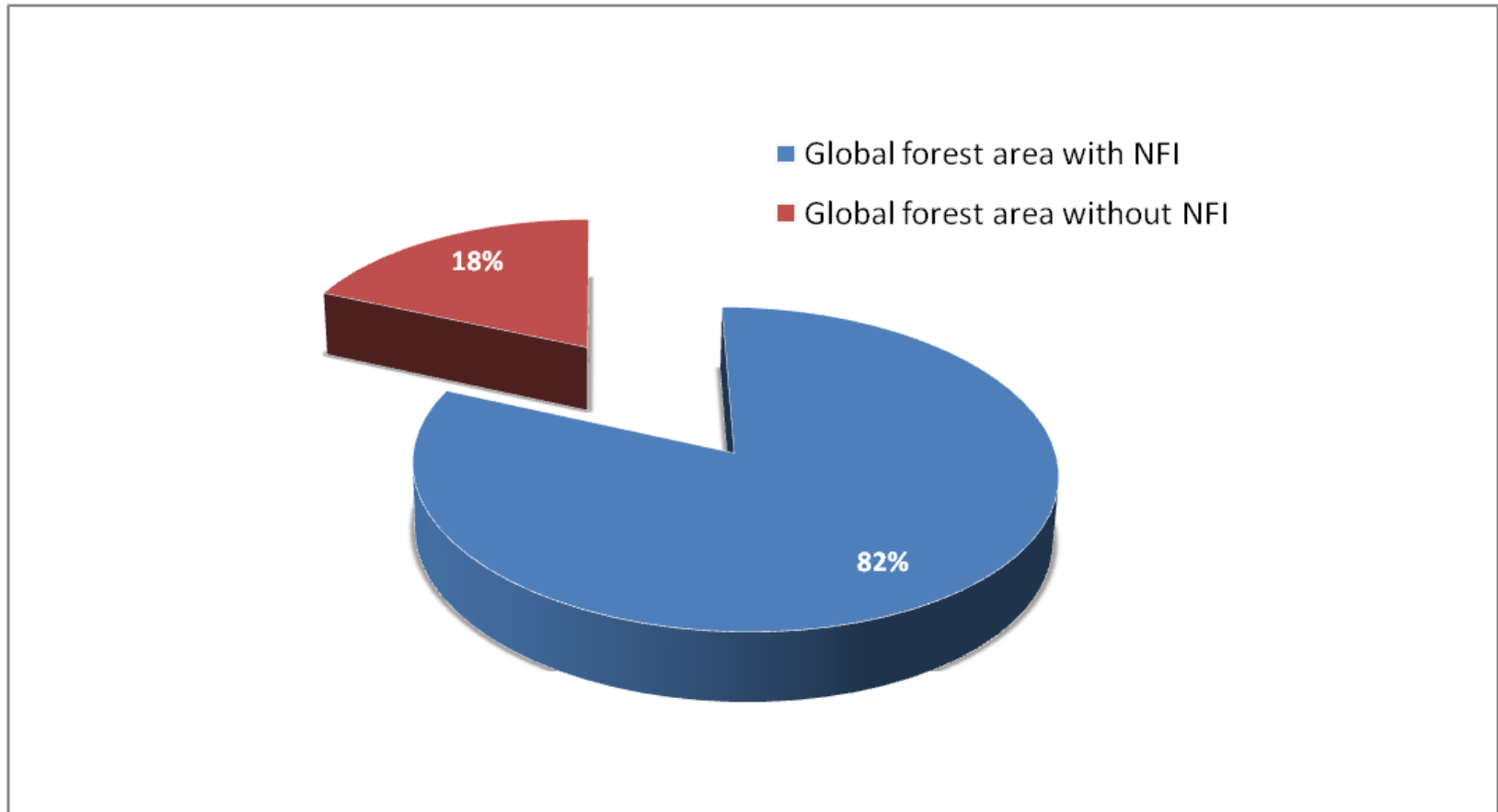
Source: MacDicken, Tropical Countries reporting to FRA 2015, personal communication. April 2015, Rome, Italy



Forest Inventory coverage by sub-region

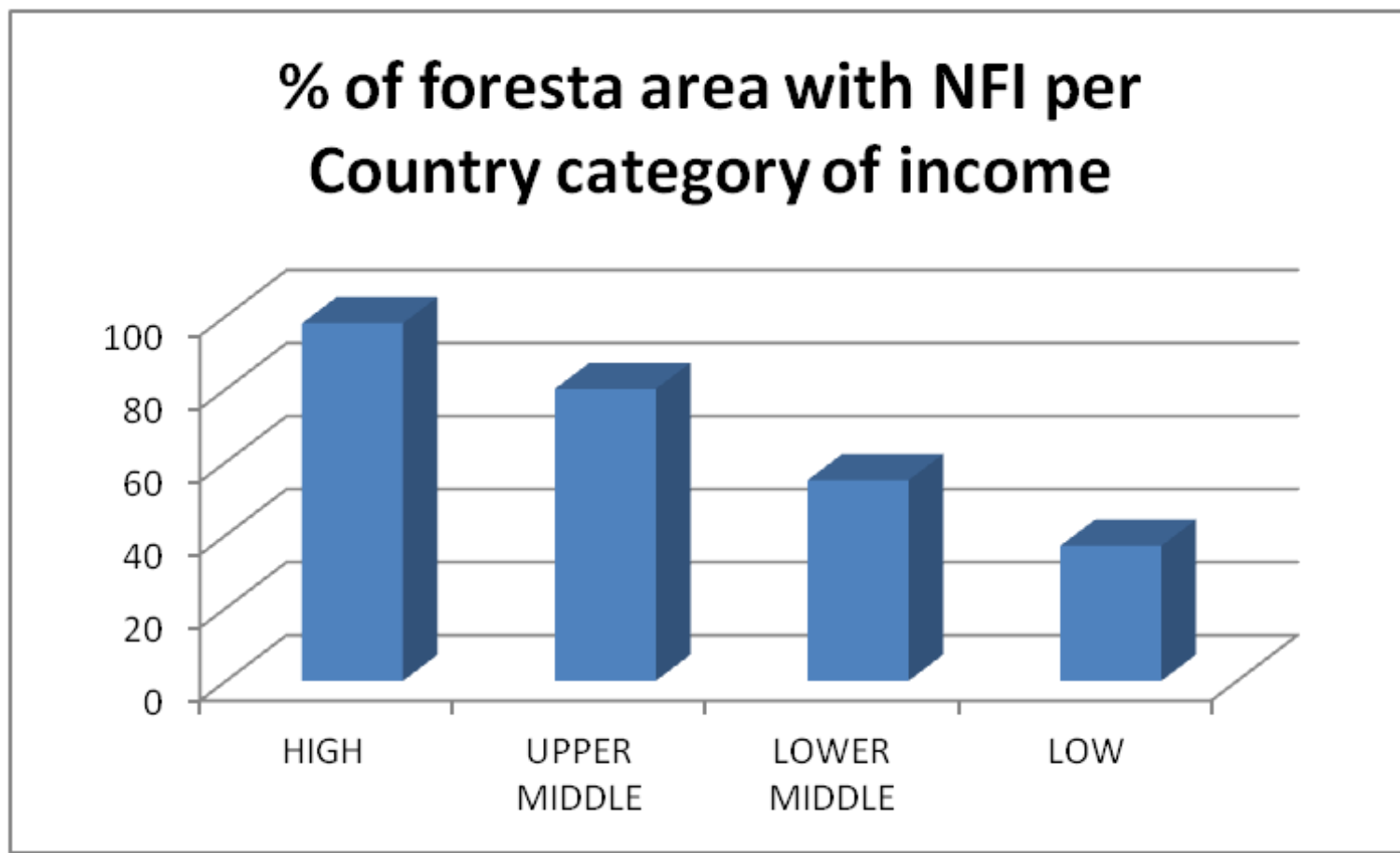


FOREST AREA COVERED BY NFI





FOREST AREA COVERED BY NFI PER COUNTRY INCOME CATEGORY



VOLUNTARY GUIDELINES ON NATIONAL FOREST MONITORING

FAO MANDATE



During 21th Committee on Forestry,

- FAO was requested “to prepare a set of voluntary guidelines on national forest monitoring.



VOLUNTARY GUIDELINES ON NATIONAL FOREST MONITORING



MAIN OBJECTIVES

- To present a general framework to compile good practice principles, methodologies and tools for planning and implementing national forest monitoring.
- To contribute to the development of basic standards that facilitate the comparison of information in space and time - including among other harmonization of terminology and definitions.

GENERAL PRINCIPLES OF A NATIONAL FOREST MONITORING SYSTEM



- ✓ **Governance Principles**
- ✓ **Scope Principles**
- ✓ **Design Principles**
- ✓ **Data Principles**
- ✓ **Overall principles**

GENERAL PRINCIPLES OF A NATIONAL FOREST MONITORING SYSTEM



- | | |
|--------------------------------|--|
| ✓ Governance Principles | <i>referring to the institutional setting and governance</i> |
| ✓ Scope Principles | <ul style="list-style-type: none">• Country ownership and responsibility |
| ✓ Design Principles | <ul style="list-style-type: none">• Legal basis |
| ✓ Data Principles | <ul style="list-style-type: none">• National Forest Monitoring needs a landscape view |
| ✓ Overall principles | <ul style="list-style-type: none">• National Forest Monitoring should be institutionalized• Research infrastructure and capacity building |

GENERAL PRINCIPLES OF A NATIONAL FOREST MONITORING SYSTEM



- ✓ **Governance Principles** *referring to the identification of information needs*
- ✓ **Scope Principles**
 - Participatory discussion process among national stakeholders on the scope and objectives of forest monitoring
 - The National Forest Monitoring must satisfy national level information needs
- ✓ **Design Principles**
- ✓ **Data Principles**
- ✓ **Overall principles**

GENERAL PRINCIPLES OF A NATIONAL FOREST MONITORING SYSTEM



- | | |
|--------------------------------|--|
| ✓ Governance Principles | <i>referring to data collection and analyses (including sample based field inventories and remote sensing analyses)</i> |
| ✓ Scope Principles | |
| ✓ Design Principles | |
| ✓ Data Principles | |
| ✓ Overall principles | <ul style="list-style-type: none">• Integration of and consistency with existing information sources• A flexible approach in order to integrate emerging issues and allow for periodic revisions• National forest monitoring should follow a multi-purpose approach.• Feasibility including cost-efficiency |

GENERAL PRINCIPLES OF A NATIONAL FOREST MONITORING SYSTEM



- ✓ Governance Principles *referring to information generation, reporting and dissemination and, in particular, data availability*
 - ✓ Scope Principles
 - ✓ Design Principles
 - ✓ **Data Principles**
 - ✓ Overall principles
-
- **A well-defined data and information sharing policy**

GENERAL PRINCIPLES OF A NATIONAL FOREST MONITORING SYSTEM



✓ **Governance Principles**

which suggest general guidelines.

✓ **Scope Principles**

- **Credibility through transparency and quality**

✓ **Design Principles**

- **Collaboration at the international level**

✓ **Data Principles**

✓ **Overall principles**

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Thank you !