National Forest Monitoring and Assessment

Technical Meeting of the National Correspondents to the Global Forest Resources Assessment (FRA 2010)

FAO Support to National Forest Monitoring and Assessment

3-7 March 2008
Mohamed Saket

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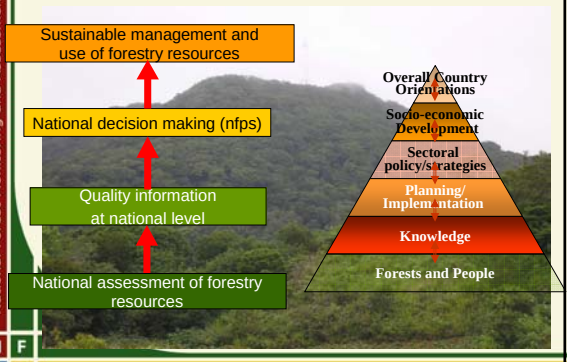
Why a NFA?



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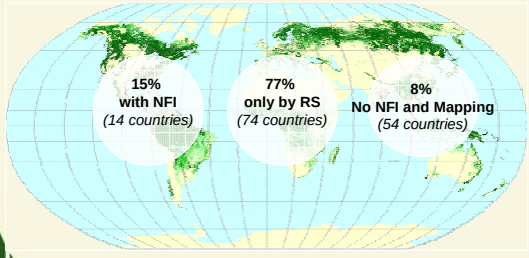
Why FAO supports NFMAs ?



Data status on forests in developing countries (FRA 2005)

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Support to NFMA

- FAO Mandate
- COFO
- IPF and IFF

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How ?

- Through adopting holistic and cost effective approach to NFMA
- Broadening & harmonising information to meet national & international users requierements

- Data driven by decision making and inter-sector policy harmonisation
- Support national policy dialogue and reporting to international processes

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Approach

- Capacity building
- Improve knowledge (National Decision making)
  - State of resources in forests and TOF and their benefits (products & services)
  - Management, use and users of resources

- Improve information management systems
- Set up long term monitoring of indicators for national & international reporting (extent, growing stock, carbon, biodiversity, health, etc).

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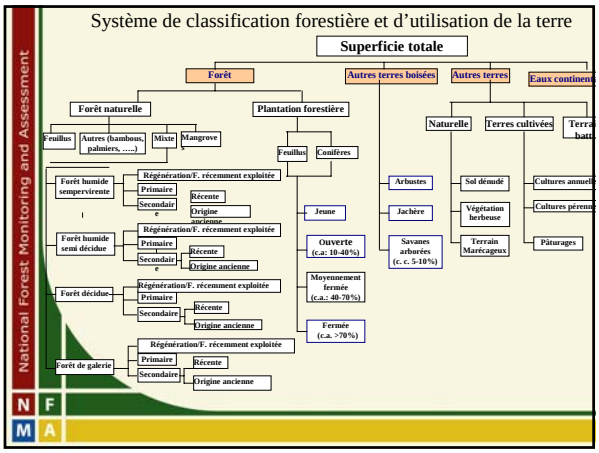
Système de classification forestière et d'utilisation de la terre
Superficie totale
Forêt
Autres terres boisées
Autres terres
Eaux continent
Forêt naturelle
Plantation forestière
Feuillus
Autres (bambous, palmiers, ...)
Mixte
Mangrove
Conifères
Naturelle
Terres cultivées
Arbustes
Jachère
Savanes arborées (c. c. 5-10%)
Sol dénudé
Végétation herbeuse
Terrain Marécageux
Cultures annuell
Cultures pérenn
Pâturages
Régénération/F. récemment exploitée
Primaire
Secondaire
Récente
Origine ancienne
Forêt humide sempervirente
Forêt humide semi décidue
Forêt décidue
Forêt de galerie
Jeune
Ouverte (c.a: 10-40%)
Moyennement fermée (c.a.: 40-70%)
Fermée (c.a. >70%)
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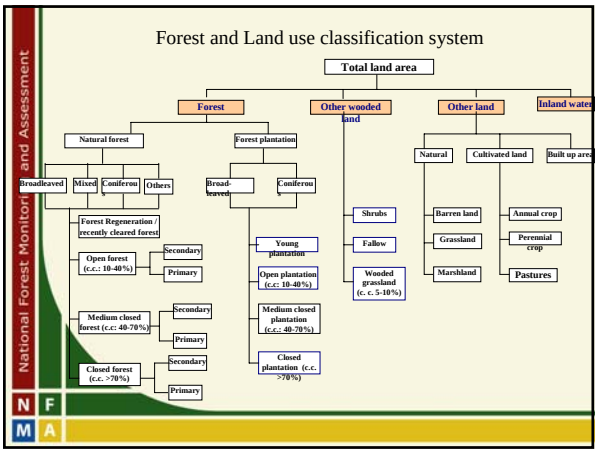
Forest and Land use classification system
Total land area
Forest
Other wooded land
Other land
Inland waters
Natural forest
Forest plantation
Broadleaved
Mixed
Coniferous
Others
Broad-leaved
Coniferous
Forest Regeneration / recently cleared forest
Open forest (c.c.: 10-40%)
Medium closed forest (c.c: 40-70%)
Closed forest (c.c. >70%)
Secondary
Primary
Young plantation
Open plantation (c.c: 10-40%)
Medium closed plantation (c.c.: 40-70%)
Closed plantation (c.c. >70%)
Shrubs
Fallow
Wooded grassland (c. c. 5-10%)
Natural
Cultivated land
Built up area
Barren land
Grassland
Marshland
Annual crop
Perennial crop
Pastures
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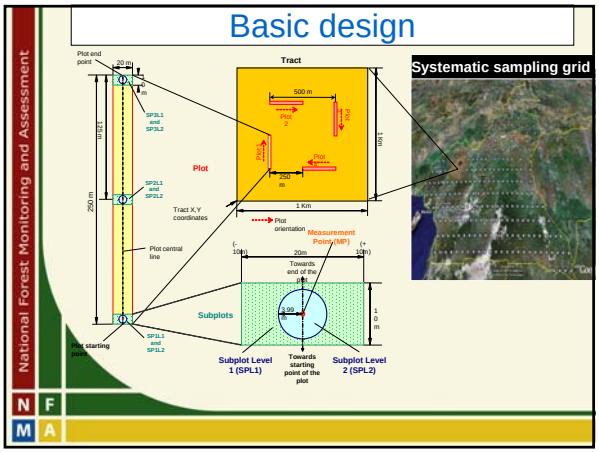
Basic design
Systematic sampling grid
Tract
Plot
Subplots
Plot end point
Plot starting point
Tract X,Y coordinates
Plot central line
Plot orientation
Measurement Point (MP)
Towards end of the plot
Towards starting point of the plot
Subplot Level 1 (SPL1)
Subplot Level 2 (SPL2)
SP3L1 and SP3L2
SP2L1 and SP2L2
SP1L1 and SP1L2
500 m
250 m
1 Km
20m
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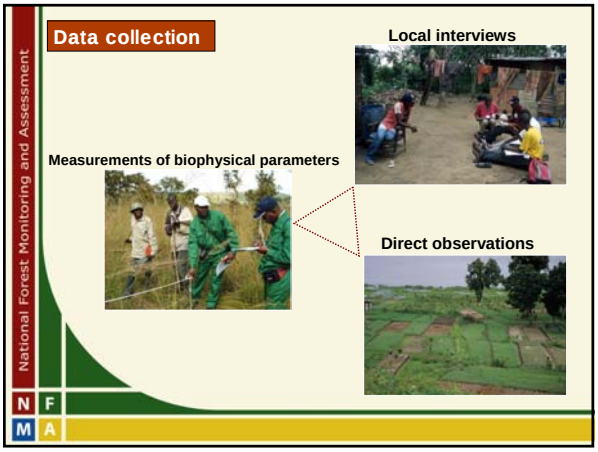
Data collection
Local interviews
Measurements of biophysical parameters
Direct observations
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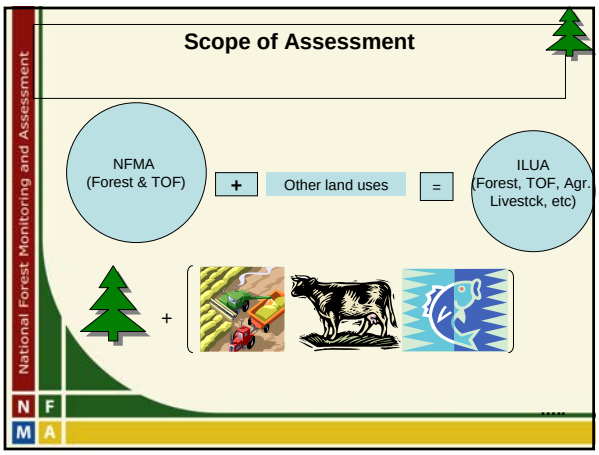
Scope of Assessment
NFMA (Forest & TOF)
+
Other land uses
=
ILUA (Forest, TOF, Agr. Livestck, etc)
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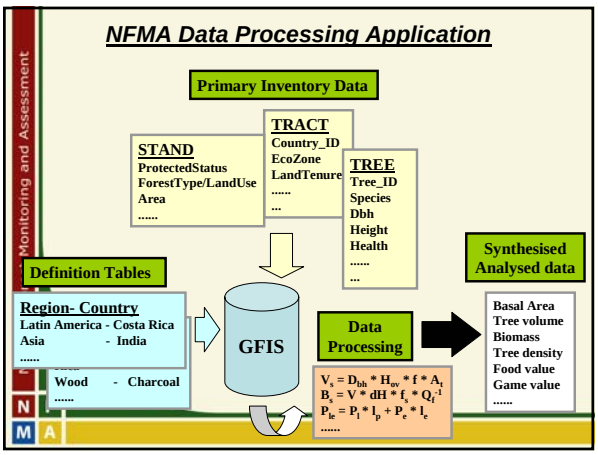
NFMA Data Processing Application
Primary Inventory Data
STAND
ProtectedStatus
ForestType/LandUse
Area
TRACT
Country_ID
EcoZone
LandTenure
TREE
Tree_ID
Species
Dbh
Height
Health
Definition Tables
Region- Country
Latin America - Costa Rica
Asia - India
Wood - Charcoal
GFIS
Data Processing
Synthesised Analysed data
Basal Area
Tree volume
Biomass
Tree density
Food value
Game value
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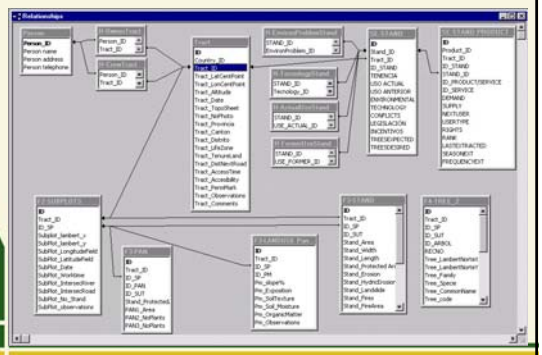
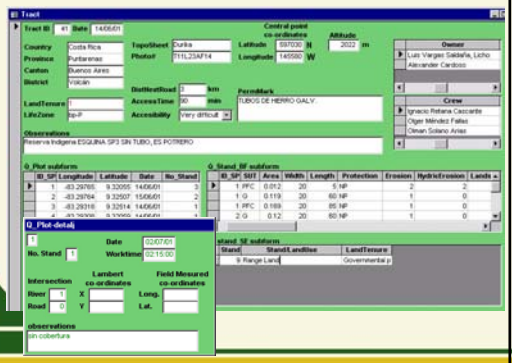
Relationships built between the tables



Forms for displaying structured inventory data



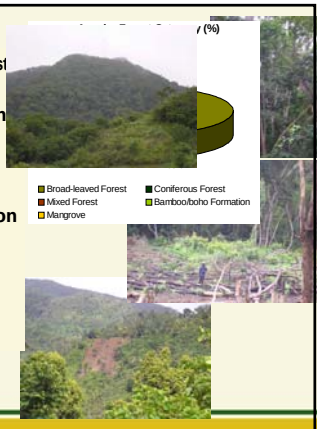
Outputs of NFMA, basis for policy analysis

Attributes	Forest	TOF	Corresponding FRA Tables	
Extent of forest, other wooded land & other land	x	x	T1	Extent of forest & other wooded land
Ownership	x	x	T2	F.rest ownership & mgment rights
designation	x	x	T3	Forest designation & management
Forest characteristics	x		T4	Forest characteristics
Origin of forest and trees	x	x	T5	F. establishment & reforestation
Volume per land use category	x	x	T6	Growing stock
Biomass per land use category	x	x	T7	Biomass stock
Carbon per land use category	x	x	T8	Carbon stock
Forest fire	x		T9	Forest fires
Environmental problems	x	x	T9 & 10	Forest fires & Other disturbances affecting forest health & vitality
Forest and tree health	x	x		
Biodiversity (tree species)	x	x		
Products	x	x	*T12*	NWFPs removals & value of removals
User' rights	x	x	T2	Forest ownership and management rights
Management & silviculture	x		T3	Forest designation and management
Policy analysis			T14	Policy and legal framework
Services	x	x	T11	*Wood removals and value of removals*
Population dynamic	x	x	T13	Employment
Population activities	x	x	T15	Institutional framework
Etc.....	x	x	T16	Education and research
			T17	Public revenue collection and expenditure

NFMA

Monitoring REDD

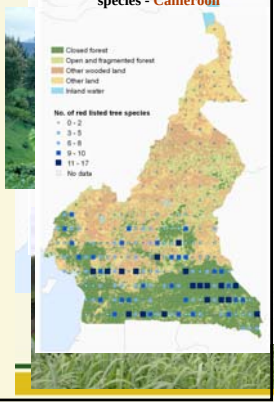
- Extent of biomes and forest
- Extent of forest change – deforestation, reforestation afforestation
- Disturbances and forest degradation
- Abundance and distribution of timber tree species
- Activities of forest dependent populations
- End-use of resource
- .....



Biodiversity variables

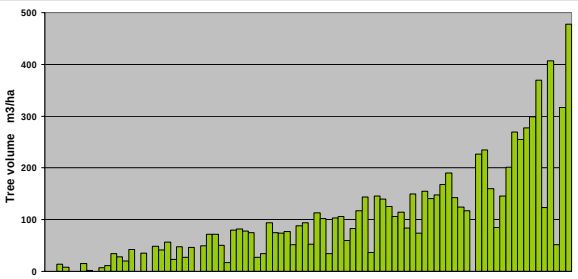
- Extent of biomes, ecosystems and habitats
- Protection status of different ecosystems
- Forest composition
- Extent of primary forest
- Forest fragmentation
- Forest management systems
- End-use of resource
- Disturbance levels
- Crop diversity
- Tree species abundance and distribution
- .....

Invasive species distribution
Frequency of red listed tree species - Cameroon



Country example

- Guatemala – Forest volume on inventoried tracts



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Where does FAO support NFMAs ?

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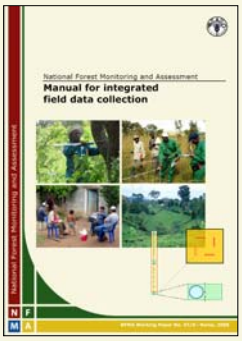
Further information on NFMA



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Further information on NFMA

http://www.fao.org/forestry/site/nfma

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Thank You