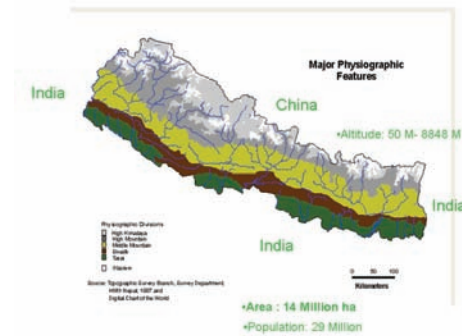
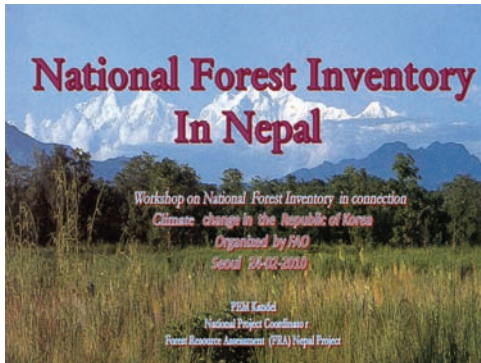
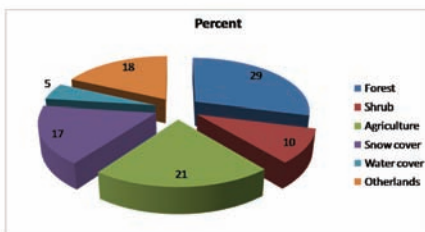


Reporting systems in Nepal

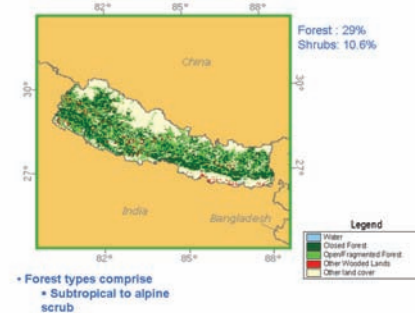
Mr. Pem Narayan Kandel



Land use in Nepal



Forest Cover Map



Conceptualizing on FRA/Inventory

FRA/Inventory ?

- [Process/Methods of generation forest resource data](#)
- [Processes involve:](#)
 - Objective setting
 - Scaling up the FRA
 - [data need assessment](#)
 - Methodological and inventory design
 - Decision making on materials use
 - Execution etc.

Scales of FRA/forest inventory

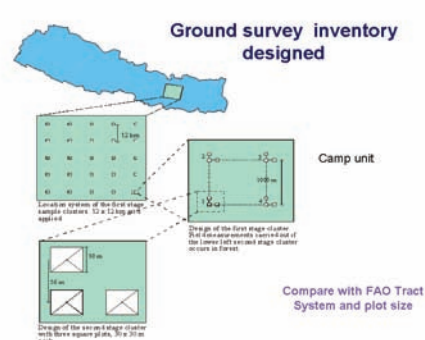
1. [Global FRA](#): Carried out by FAO to provide global level forestry information
2. [National level FRA](#): Country level data acquisition used for broad level policy decision and international level reporting.
3. [Sub-National level](#): inventory is for provincial or ecological level data generation.
4. [Districts level](#): for district forest resource planning and management.
5. [Management level inventory](#): is for SMF, Silvicultural operations and harvesting.

Why NFI ?

- A tool for generating national level forest statistics.
- National level baseline data needed for forestry planning and making broad decision.
- Provide dataset for international reporting.
- Periodic monitoring of forest to update changes.
- Thus, NFI commences in Nepal to address present national and international data needs.

2 LRMP 1978/79

- Wall to wall assessment of Nepal's forest cover was accomplished .
- Conducted with financial support of Canadian Government
- **Objective:**
 - Land cover and land use mapping
- **Material used :** Based on RS data (aerial)
- **Methods**
 - NFI 1960s data were used to produce maps
 - Aerial photo interpretation
 - Ground verification



History of NFI in Nepal

- 1. NFI (1963-67):** Carried out in the technical and financial support of USAID
 - **Objective:** determining status of commercial forest
 - **Materials used:** Aerial photos of 1954 and 1963
 - **Field inventory methods:**
 - Systematic approach
 - Rectangular grid (2.2 miles by 10 miles)
 - 270 plots in hills and 285 plots were measure
 - Terai's result came in 1967 but in 1973 of hills
 - Measure only on commercial forests(47%) of total forest area.

3 NFI 1986-1997 (Finnish cooperation)

- **Objective**
 - to generate forest statistics of accessible forest and produce forest cover and change maps
- **Materials used**
 - **Satellite images (lansat TM) 1990 &1991** (Nov-Dec) for forest cover mapping of Tetrai 14 districts
 - Spatial resolution 30*30 M
 - Spectral resolution 1-7 band
 - **Aerial photos 1989-1996 (1:25000-50000 scale)** for forest cover mapping of 51 hill districts.
 - **Topo maps** used as a mapping materials

FRA Nepal- Project (2010-2014) for 4th NFI

- Bilateral cooperation between Governments of Finland and Nepal.
- Objective for strengthening forestry information system through updating forest/forestry statistics.
- Target to produce national/ sub-national data and maps of forests, biodiversity, NTFPs and TROF.
- Under the Ministry of Forests and Soil Conservation(MFSC) Department of Forest Research and Survey (DFRS) is the coordinating organization.
- Starting from January 2010

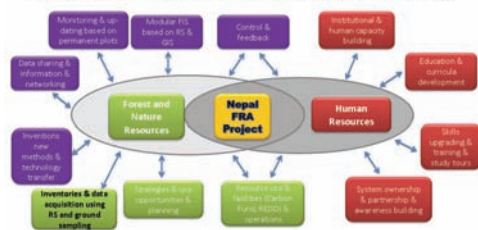
Issue in NFI

- Complicated terrain and heterogeneity
- Diversity in forest types and compositions
- Methodological issues (lot of criticisms)
 - Inventory design
 - Representativeness
 - Sampling intensity (0.015%)
 - Accuracy
- Institutional
- Lack of data set consolidation of forests for all processes
- Lack of permanent plot for periodic update.

NFI processes purposed by FRA project

- Assessment of National level Data need
- Multi source data use such as:
 - Satellite images (high medium to low resolutions), Lidar data, aerial photos and field inventory.
- Reviewing of previous field inventory methods
- Increasing stakeholder participation
- Finalizing the comprehensive methods for NFI
- Using local knowledge and expertise
- Establishment of data sharing Mechanism
- Generation of need based and accurate data.
- Human resource development in RS and GIS

Proposed Approach and Methodology



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Conclusion

FRA-Nepal Team is in planning phase

The team has to decide on:

- Consolidating data set of forests for all processes.
- Kind of RS technologies and materials to be used.
- Percent of sampling intensity to be applied with available fund.
- Using stratification and/or systematic sampling?
- Using FAO tract system or Camp unit(Cristoph K) ?
- Rectangular or circular plots or both?
- Your great contributions is requesting to make NFI effective and efficient in Nepal.

THANKS