

# Current Land Use Land Cover Change Research Priorities in Myanmar

YANGON

Thiha

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## The First Appraisal (1955)

- ✓ The first national forest cover assessment using the aerial photography of 1953-1957; completed in 1957.
- ✓ Reports have been lost but the result of a good forest cover (closed forest with >40% crown cover) 57% remained as an official figure for a long time.
- ✓ Other land (43%) included many forms of degraded forests and other non-wooded lands.

## Second Appraisal (1975)

- ✓ Landsat imagery was first introduced under a FAO/UNEP project (Tropical Resources Assessment).
- ✓ A quick appraisal of the forest cover of the whole country; completed in 1980.
- ✓ Used 1:1,000,000 scale Landsat imagery from 1972-1979.
- ✓ The appraisal was named “1975 Appraisal” because of the reference year of the satellite imagery.
- ✓ Results: Total natural forest 60.9% of total land area:  
Closed forests 44.8%, Open forest 16.1%

## Third Appraisal (1989)

- ✓ The official third appraisal of Myanmar forests was implemented under the project (MYA/85/003)
- ✓ National Forest Management and Inventory purchased a set of Landsat TM imagery from 1989-1990 at 1:500,000 scale.
- ✓ A countrywide land use map was produced using visual interpretation.
- ✓ The classification was adjusted to maintain consistency with the 1975 appraisal.

## Fourth Appraisal (FRA 2000)

- ✓ Japan Forest Technical Association (JAFTA) and Forest Department Launched the Information System Development Project (ISDP) for the Management of Tropical Forest.
- ✓ Project coverage: 68% of the country.
- ✓ Used a 50-meter resolution Landsat TM imagery.
- ✓ Digital classification (unsupervised) along with field verification was used for the first time.
- ✓ The classification legend was the same as the official Forest Department's legends used in aerial photographic surveys.
- ✓ In 1999, TOTAL Oil & Gas Company donated 5 Landsat TM scenes to perform land use mapping in the "Tanintharyi" Division, southern Myanmar.
- ✓ National Space Development Agency of Japan assisted with ADEOS data, which covered "Mon" State.
- ✓ FRA 2000 used all these data: ISDP, Tanintharyi and Mon mappings

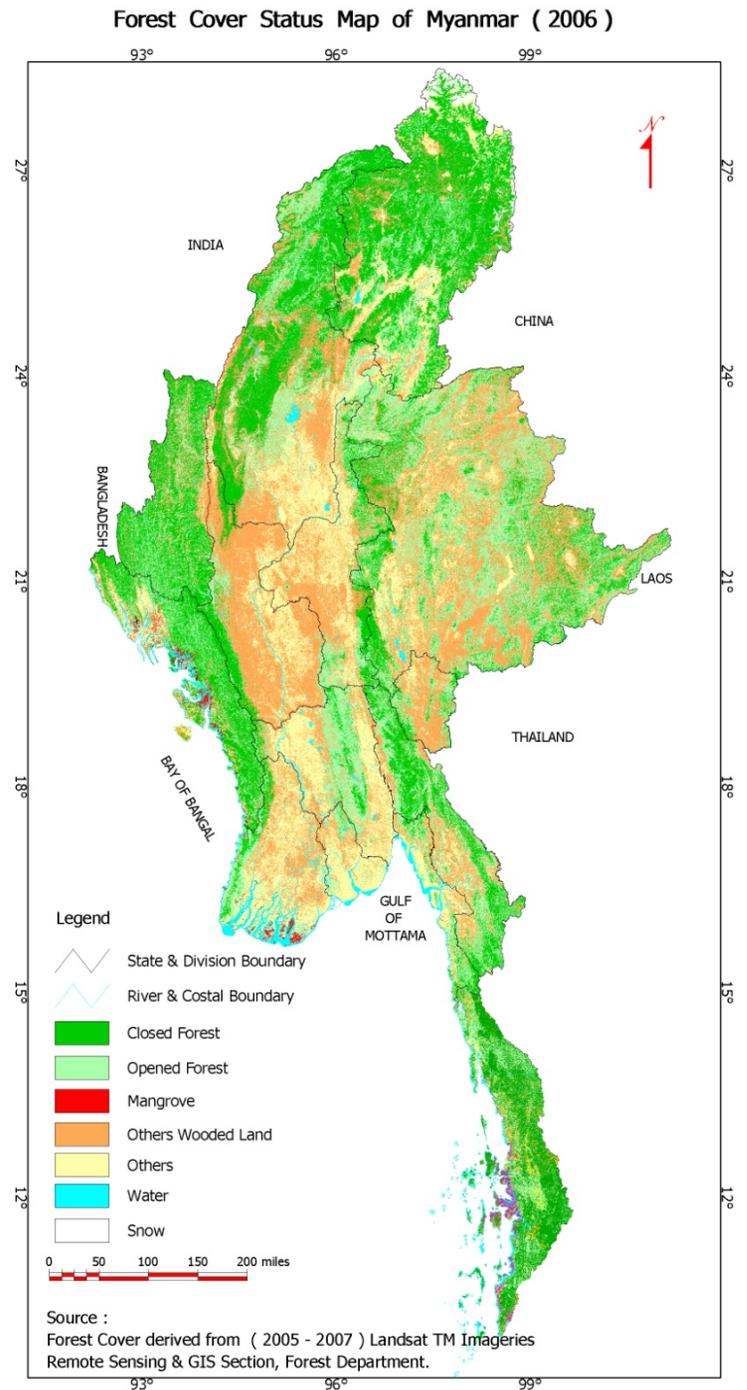
## Fifth Appraisal (FRA 2005)

- ✓ After successful completion of FRA 2000, FAO changed the appraisal periods from 10-year to 5-year interval.
- ✓ Forest Department complied FRA 2005 by updating the FRA 2000 data with complete coverage of the border areas.
- ✓ Same classification legends as FRA 2000.

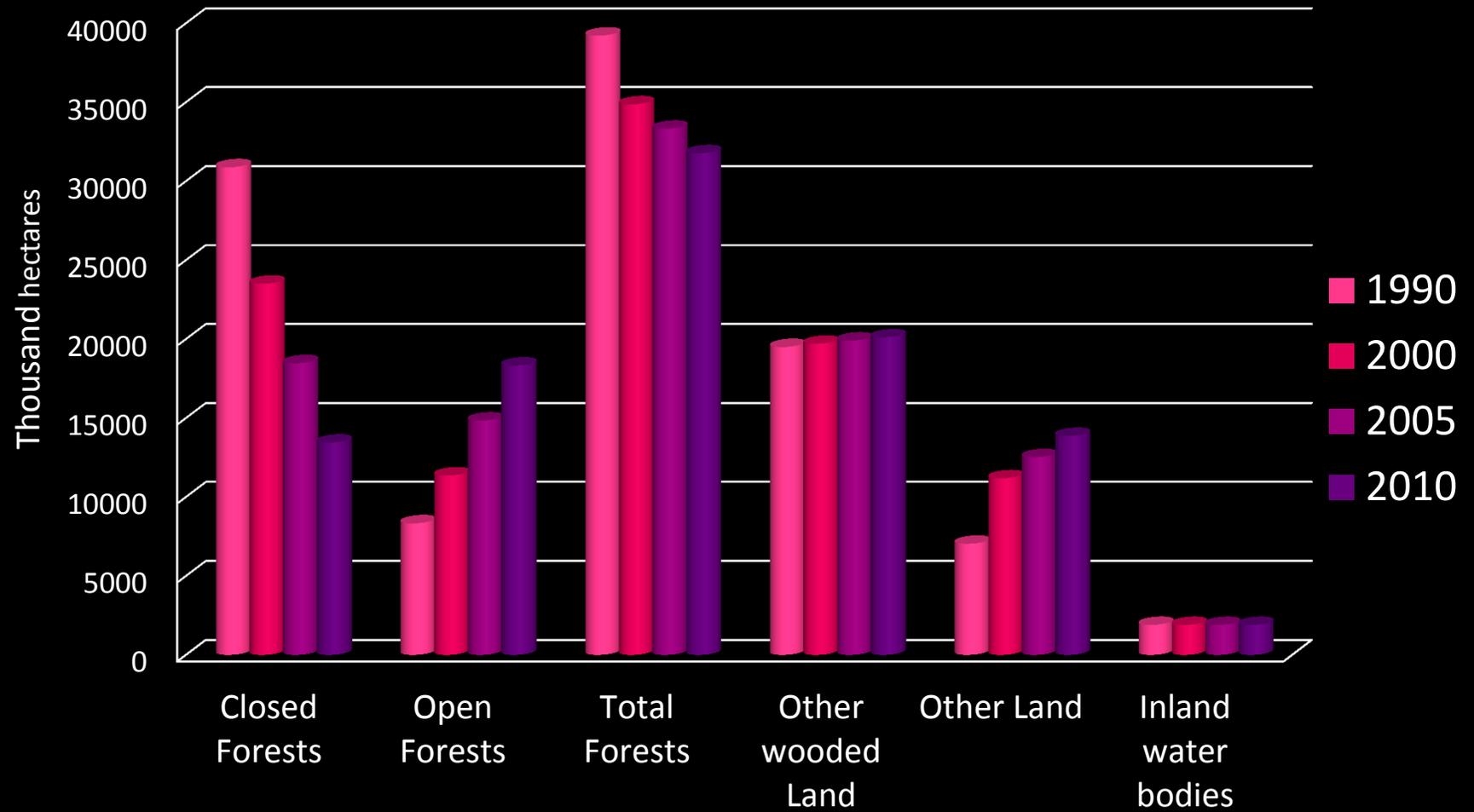
## Sixth Appraisal (FRA 2010)

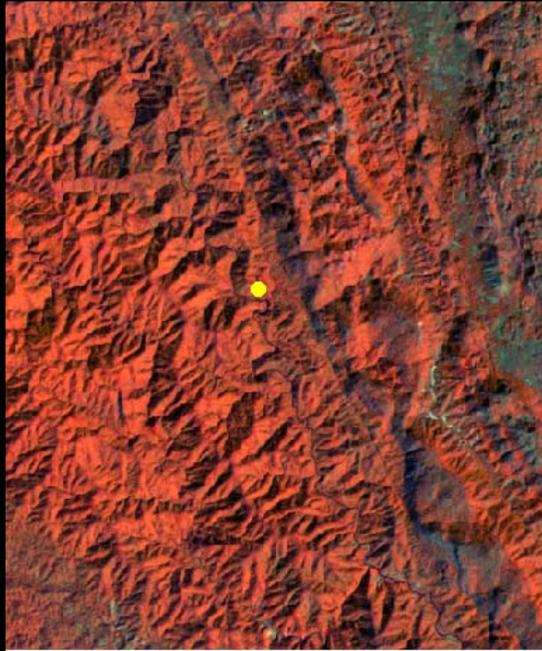
- ✓ RS & GIS section of Forest Dept. acts as the implementing agency of FRA 2010.
- ✓ FRA 2010 is based on data of Bago Yoma Greening Project; Anti-Narcotic Survey in Shan and Kachin States; West Yoma Survey; Re-survey in Dry Zone; Latest surveys in Ayeyawady Delta and Sagaing, Mon, Chin, Kayah, Karen and Tanintharyi Divisions.
- ✓ Supervised classification combined with field verification using TNT mips and ArcGIS 9.2.
- ✓ Ground checking in selected land cover visiting places using very high-res RS data and aerial photos.

# Forest cover derived from Landsat TM images (2005-07)



# Forest Cover Status of Myanmar (FRA 2010)

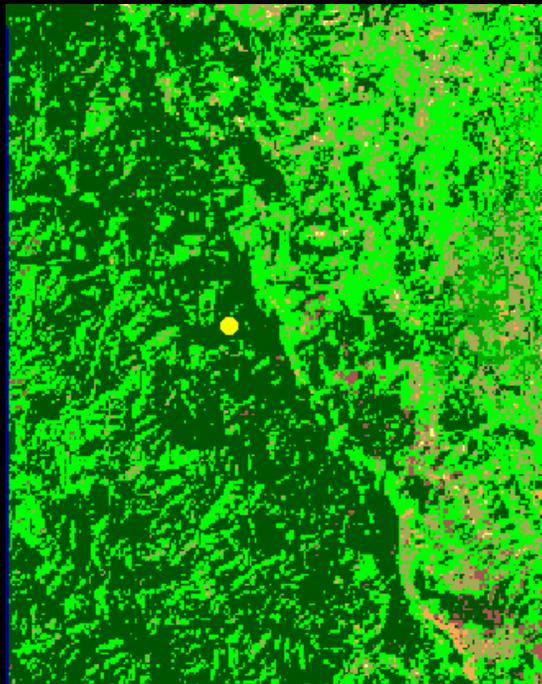


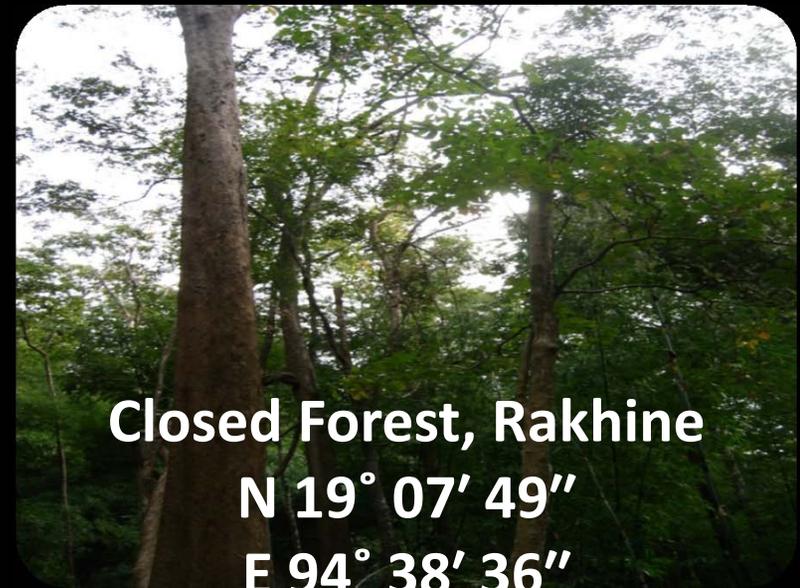


**Closed Forest  
Western Magwe Division**

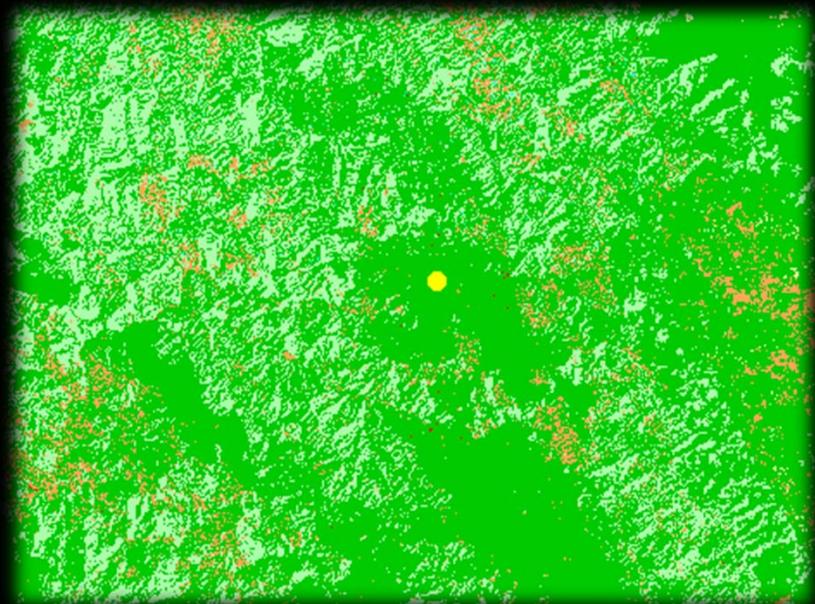
**N 20° 16' 56.13"**

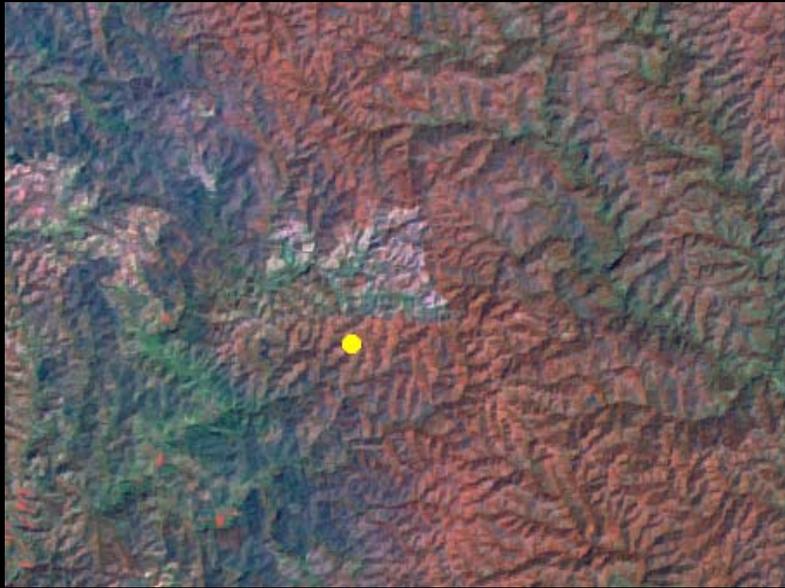
**E 96° 31' 20.76"**





**Closed Forest, Rakhine**  
**N 19° 07' 49"**  
**E 94° 38' 36"**

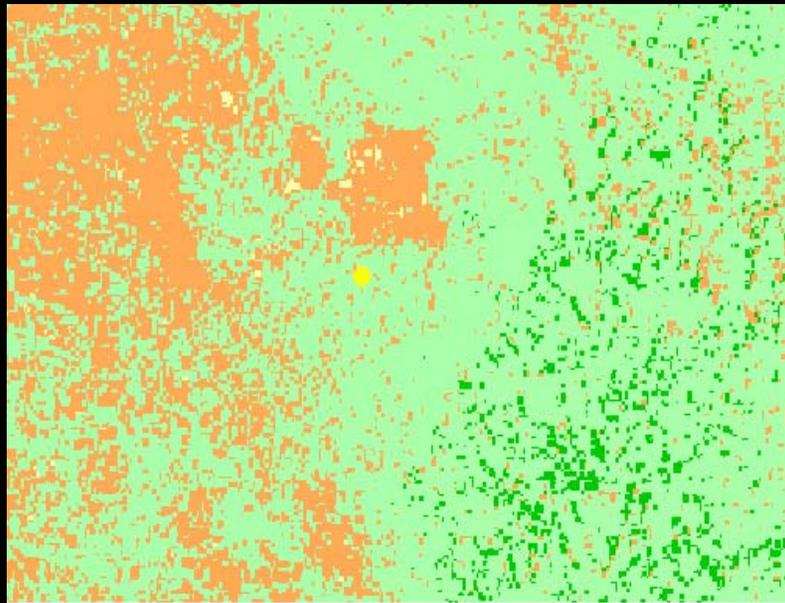




**Opened Forest**  
**Dry zone, Magwe Division**

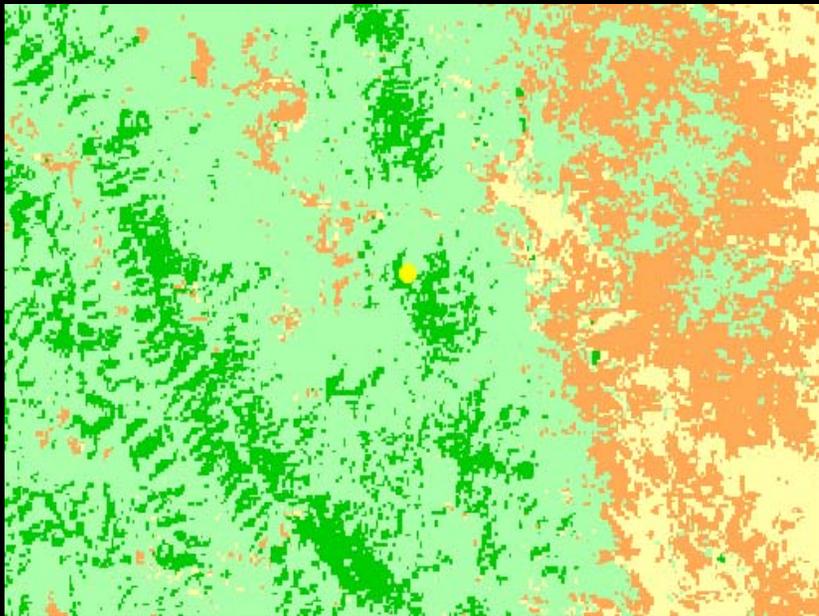
**N 19° 56' 40.60"**

**E 95° 44' 42.50"**





**Opened Forest**  
**Bago Division**  
**N 18° 58' 12"**  
**E 96° 15' 07**

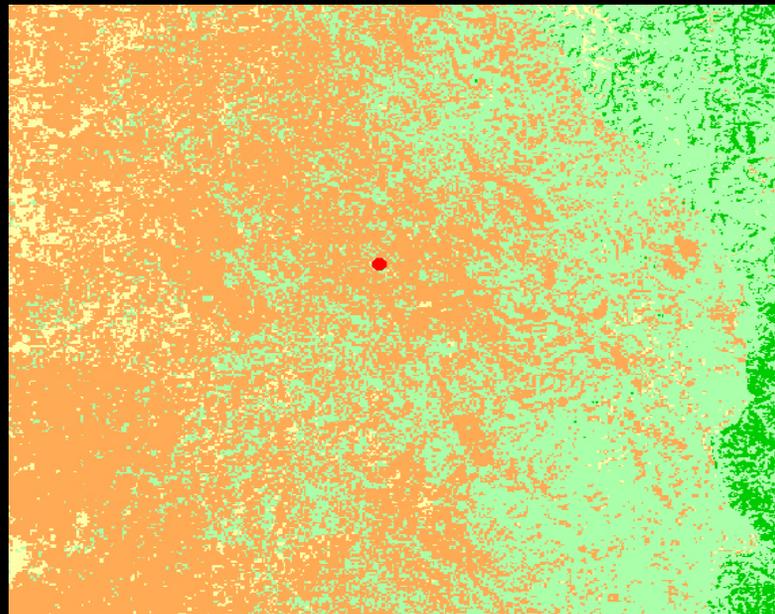
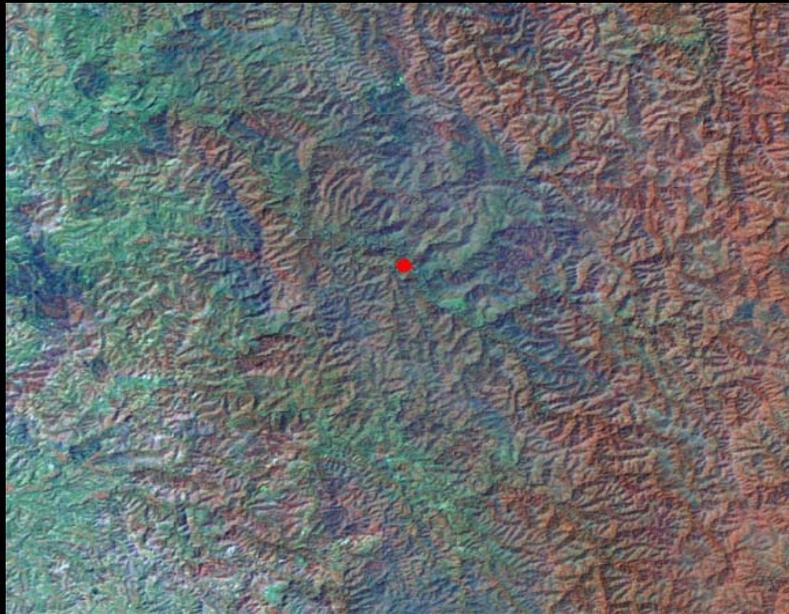


## Other Wooded Lands

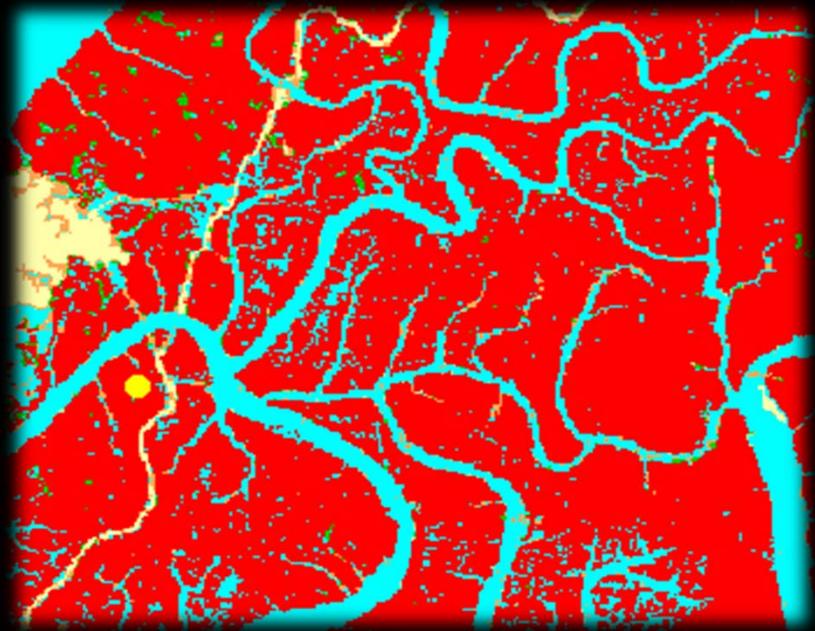
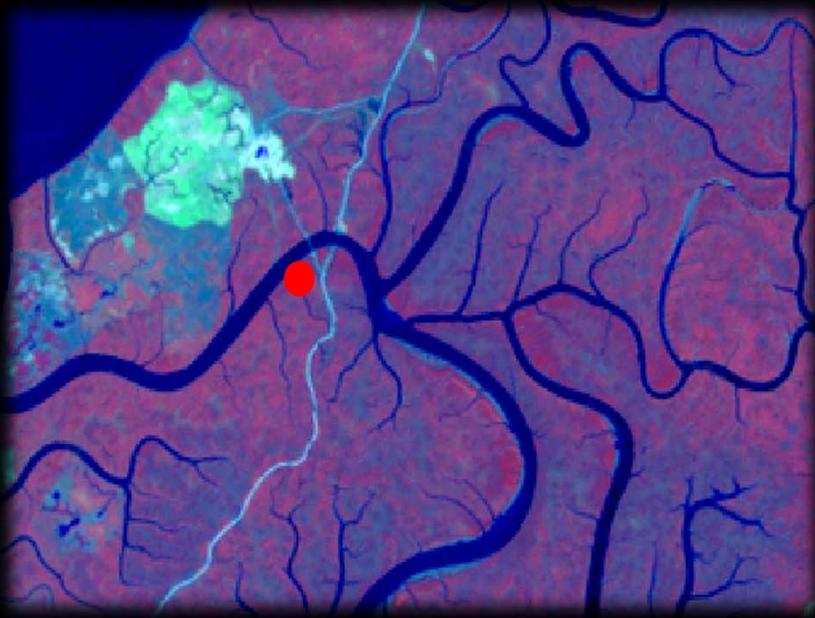
Bago Division

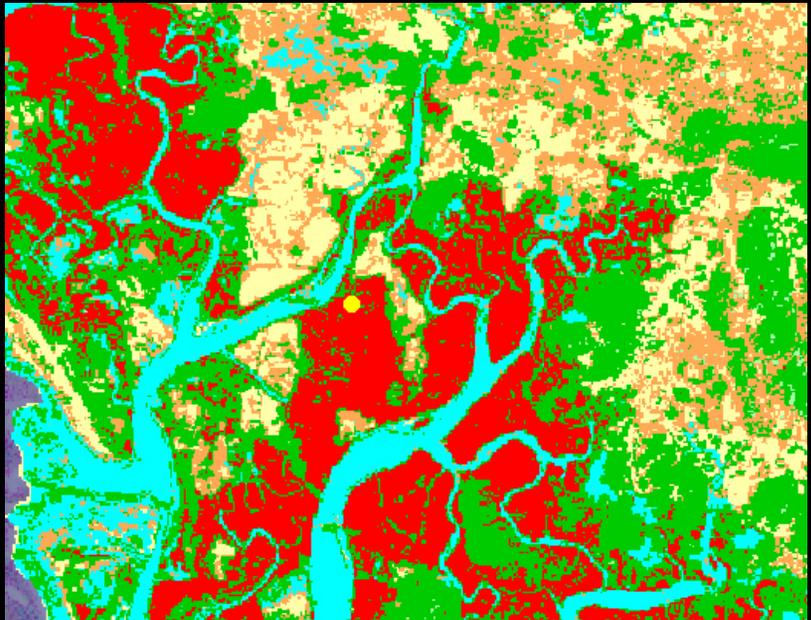
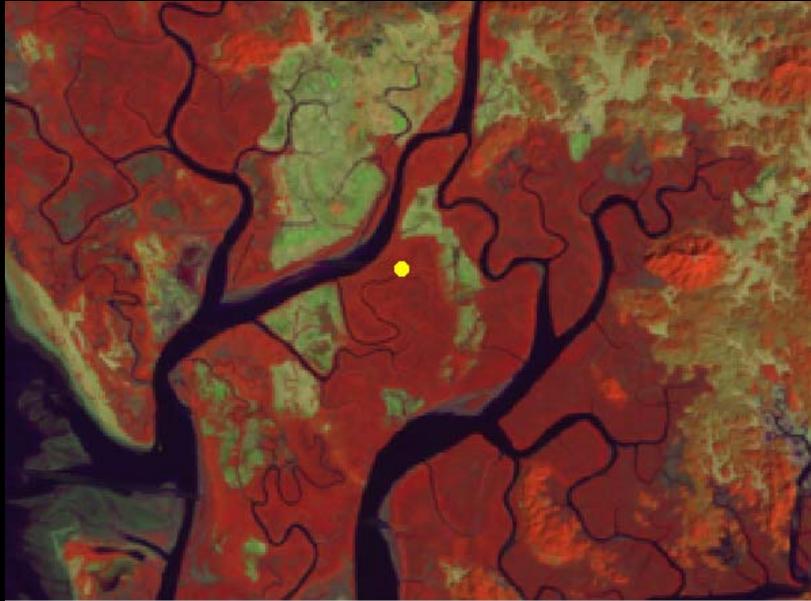
N 19° 19' 34.0"

E 95° 46' 58.3"



N 19 19 34.0  
E 95 46 58.3

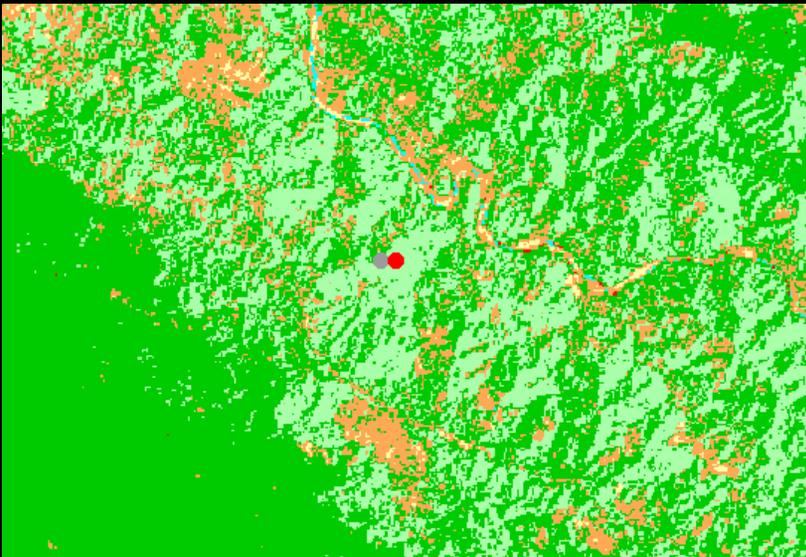




## Rakhine's Bamboo Forests (Classified as Opened Forest)

N 18° 47' 52.1"

E 94° 22' 40.2"



## Summary

- ✓ Forest Department has been implementing FRA projects in cooperation with FAO (1990, 2000, 2005, 2010)
- ✓ Goal: to produce district-wide forest cover maps for management planning.
- ✓ All forest management plans for the period of 2006-07-2015-16 had been revised using data obtained from FRA 2010.
- ✓ There is no more updated map of Forest Type after 2000. Need more high resolution satellite data.
- ✓ IRS 2010 data for the whole country has been recently purchased for FRA, and the work is ongoing.
- ✓ Additional ongoing activity: monitoring poppy cultivation in cooperation with UNODC

Thank you for your attention!