Papua New Guinea National Forest Monitoring System

4th UN-REDD Regional Lessons Learned Workshop:

"National Forest Monitoring Systems for REDD+"

15 – 17 October 2013, Swissotel Nai Lert Park, Bangkok, Thailand

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Presentation Outline

1. Objectives
2. PNG's International and National Context
3. PNG's UN-REDD Programme
4. PNG's National Monitoring System
5. PNG's NFMS Web-Portal
6. Way Forward

Objectives

Share Papua New Guinea's experiences on developing its National Forest Monitoring System

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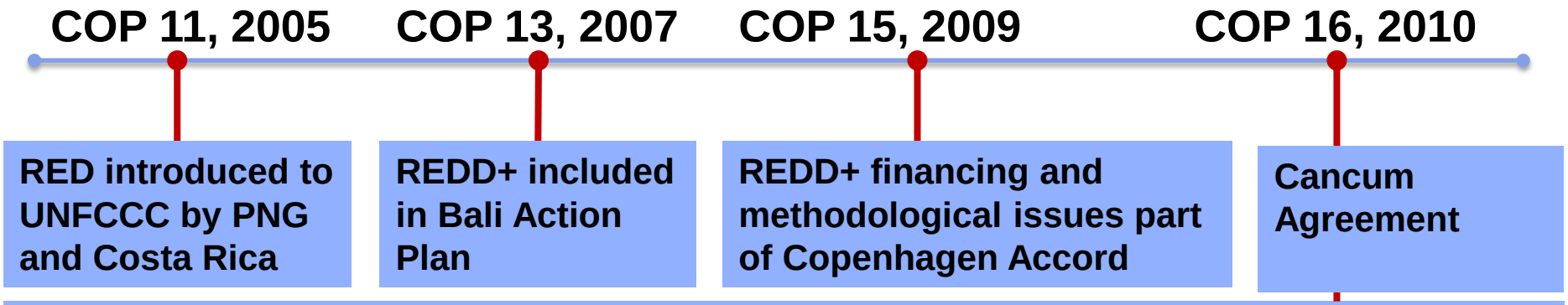
International and Nation Context

COP Decisions



Section C: "Policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries" → **REDD+**

➔ National forest monitoring system for the **monitoring of REDD+ activities**

➔ REDD+ safeguards should be **promoted and supported** (paragraph 69)

➔ Countries should develop a **system for providing information** on how the REDD+ safeguards are being **addressed and respected** (paragraph 71(d))

Annex I: Guidance and **safeguards for REDD+**

REDD+ mitigation activities as defined by Dec. 1/CP.16

- 70. Encourages developing country Parties to contribute to mitigation actions in the forest sector by undertaking the following activities, as deemed appropriate by each Party and in accordance with their respective capabilities and national circumstances:

  (a) Reducing emissions from deforestation;
  (b) Reducing emissions from forest degradation;
  (c) Conservation of forest carbon stocks;
  (d) Sustainable management of forest;
  (e) Enhancement of forest carbon stocks;

COP Decisions

COP 17, Durban 2011

Safeguards information systems and modalities relating to reference levels

COP 18, Doha 2012

- **SBSTA focused on modalities for national forest monitoring systems and measurement, reporting and verification (MRV)**
- **+ focus on REDD+ financing**

COP 19, Warsaw 2013

REDD+ Safeguards
Cancun Agreements

The seven Cancun Agreements (Decision 1/CP.16) REDD+ safeguards

a) Consistent with the objectives of NFPs and international agreements

b) Transparent and effective national forest governance structures

c) Respect for the knowledge and rights of indigenous peoples and local communities

d) The full and effective participation of relevant stakeholders

e) Consistent with the conservation of natural forests and biological diversity

f) Actions to address the risks of reversals (permanence)

g) Actions to reduce displacement of emissions (leakage)

How can forest monitoring help [*promote/support/address/respect*] the REDD+ safeguards?

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UN-REDD National Programme

PNG's UN-REDD NPD has been in development since 2009

PNG's UN-REDD NPD formulation and validation process

2009
- Joint Programme proposal formulation begins
- Presented to Policy Board

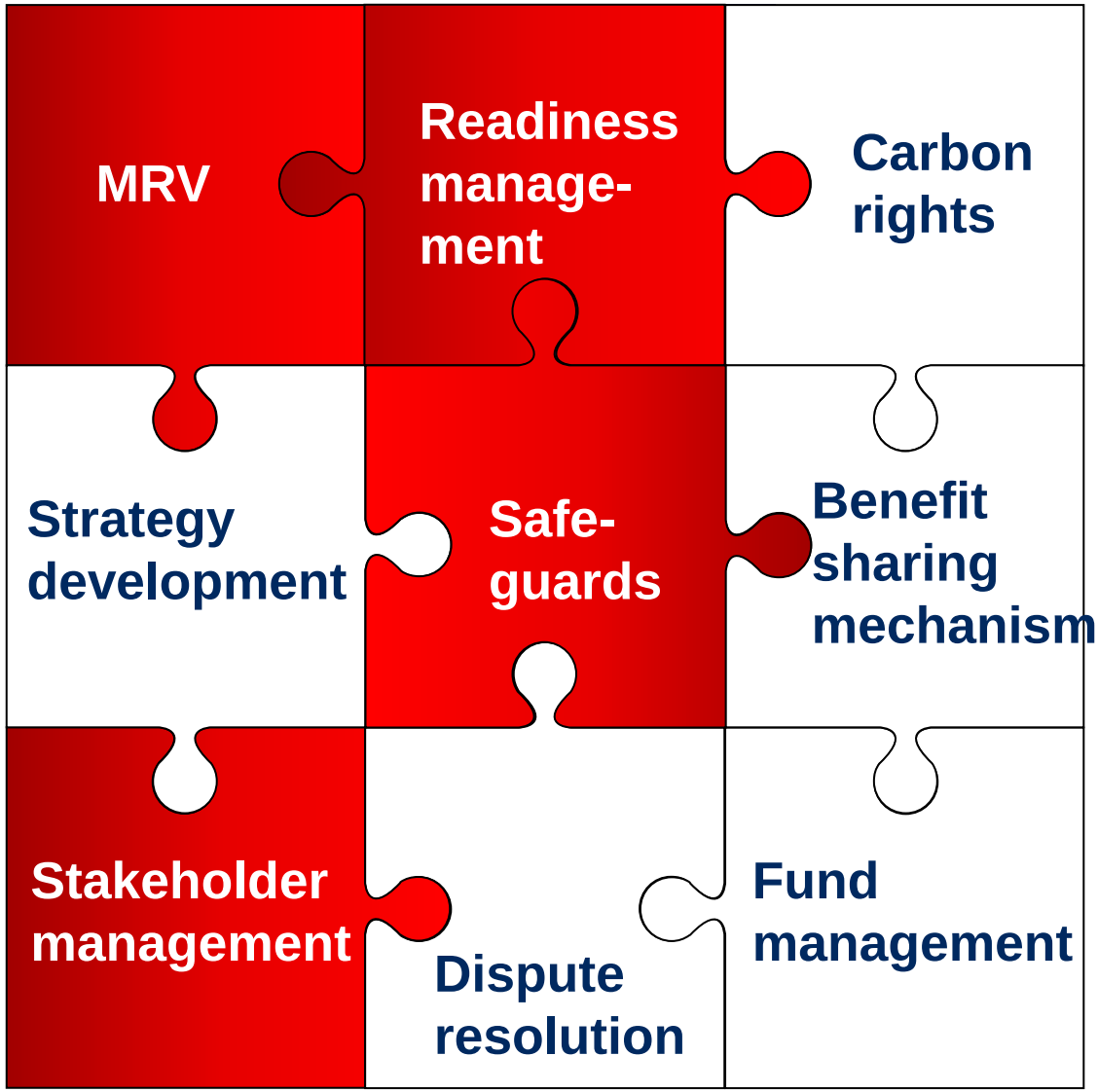
2010
- GoPNG opts to review Proposal (National Programme Document) to align funding request with country needs
- Agreement to focus NPD on developing an MRV system for PNG
- NPD submitted to Policy Board

2011
- NPD conditionally approved by Policy Board
- OCCD revises Proposal and launches 1-month review period
- Validation workshop in Feb 2011 finalises NPD with stakeholder inputs incorporated
- **Policy Board approves PNG's UN-REDD NPD on 28 Apr 2011**

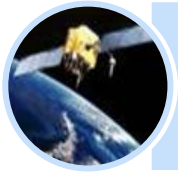
Objectives of PNG's UN-REDD National Programme

- Support the Government of PNG to **progress its activities towards REDD-plus readiness**
- C**omplement existing efforts to establish a REDD-plus framework** in PNG, including efforts from GoPNG, civil society, the private sector and development partners
- Focus on the **refinement and implementation of a full MRV roadmap** for PNG that supports PNG's overall REDD framework and readiness efforts

The UN-REDD National Programme is just one contribution to PNG's readiness efforts



PNG's UN-REDD NP is expected to deliver on five outcomes

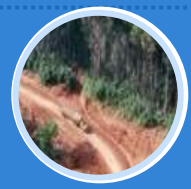
Outcome	Lead UN Agency	Potential Implementing Partners
1. Readiness Management Arrangements in Place	UNDP	▪ DNPM ▪ OCCD
 2. National MRV System Developed	FAO	▪ DEC ▪ UPNG ▪ PNGFA ▪ DAL ▪ OCCD ▪ DLPP ▪ UNITECH
3. Historical Drivers of Deforestation Assessed	FAO	▪ PNGFA ▪ UPNG ▪ DAL ▪ OCCD
4. Monitoring of Abatement Concepts Supported	FAO	▪ PNGFA ▪ OCCD
5. Framework for Stakeholder Engagement Processes in place	UNDP	▪ OCCD

Each outcome fits into a part of PNG's climate change priorities

	Priorities for 2011
REDD+	▪ **REDD+ pilots** for key abatement levers ▪ REDD+ readiness, e.g., **benefit sharing approach**
Low-carbon growth	▪ **Rural electrification**, e.g., new micro hydro plants ▪ **Energy efficiency** measures ▪ **Renewable Energy**, e.g., geothermal
Adapta-tion	▪ **Mangrove** planting ▪ **Coastal Early Warning System** ▪ **Food security and agricultural yield changes**
MRV & Cons.	▪ **MRV System** ▪ **Consultation, education, awareness** ▪ **Second National Communication**
Others	A number of priorities, e.g., ▪ Securing **interim funding** of USD 50 million ▪ Draft **Climate Change Act**

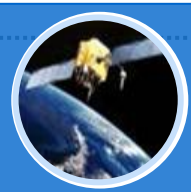
Relevant UN-REDD NP Outcome

1. Readiness Management Arrangements in Place



3. Historical Drivers of Deforestation Assessed

4. Monitoring of Abatement Concepts Supported



2. National MRV System Developed

5. Framework for Stakeholder Engagement Processes in place

The National Programme allocates funding to 5 outcomes

USD Millions

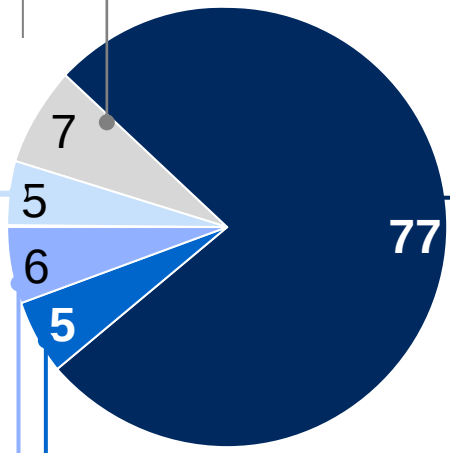
Total Agency contribution by outcome

1. Readiness Management Arrangements in Place

5. Framework for Stakeholder Engagement Processes in place

4. Monitoring of abatement concepts supported

100% = USD 6.4 million[1]



2. National Information, Monitoring and MRV System Developed

3. Historical Drivers of Deforestation Assessed

1 Includes 7% Agency indirect support costs

SOURCE: UN-REDD National Programme Document

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National Forest Monitoring System

Towards REDD+:
the Papua New Guinea efforts in building its National Forest Monitoring System

HIGHLIGHTS:

- **PNG is realizing its "National Forest Monitoring System" as a system that will address all the information, monitoring and MRV needs under the Convention;**
- **The National Forest Monitoring System will be developed with a multiple purposes approach, e.g. forests, land use, land tenure, food security, biodiversity and rural livelihoods;**
- **The National Forest Monitoring System is a long-term effort that will be developed with a clear and strong institutional base;**
- **The design and implementation of the National Forest Monitoring System is including a full and effective participation and capacity development of all relevant institutions and stakeholders;**
- **The National Forest Monitoring System will provide free access, transparency and timely delivery of all relevant data and information to all relevant stakeholders;**
- **The National Forest Monitoring System is currently under development with contributions and supports from UN-REDD Programme, AusAID (Australia), and JICA (Japan).**

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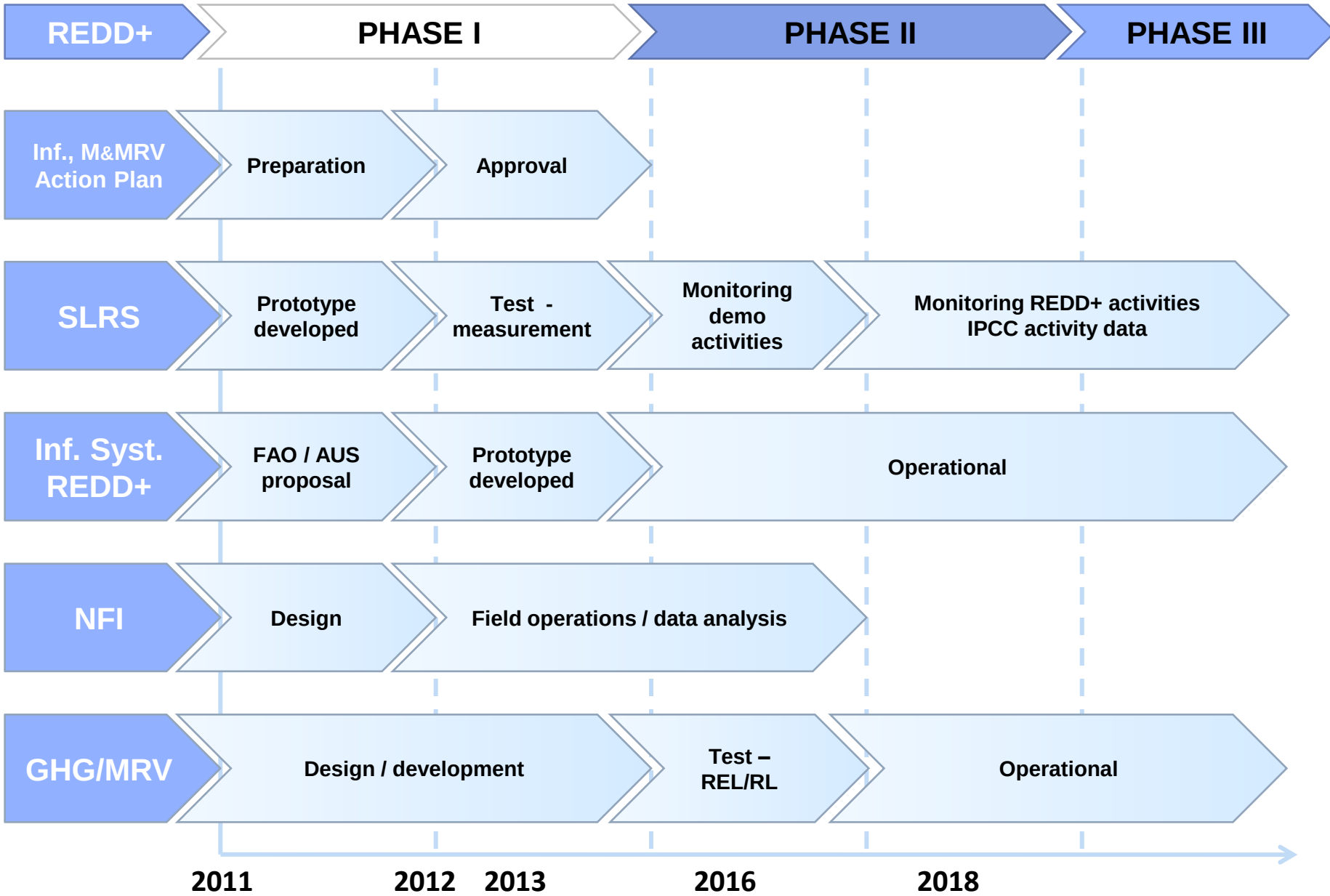
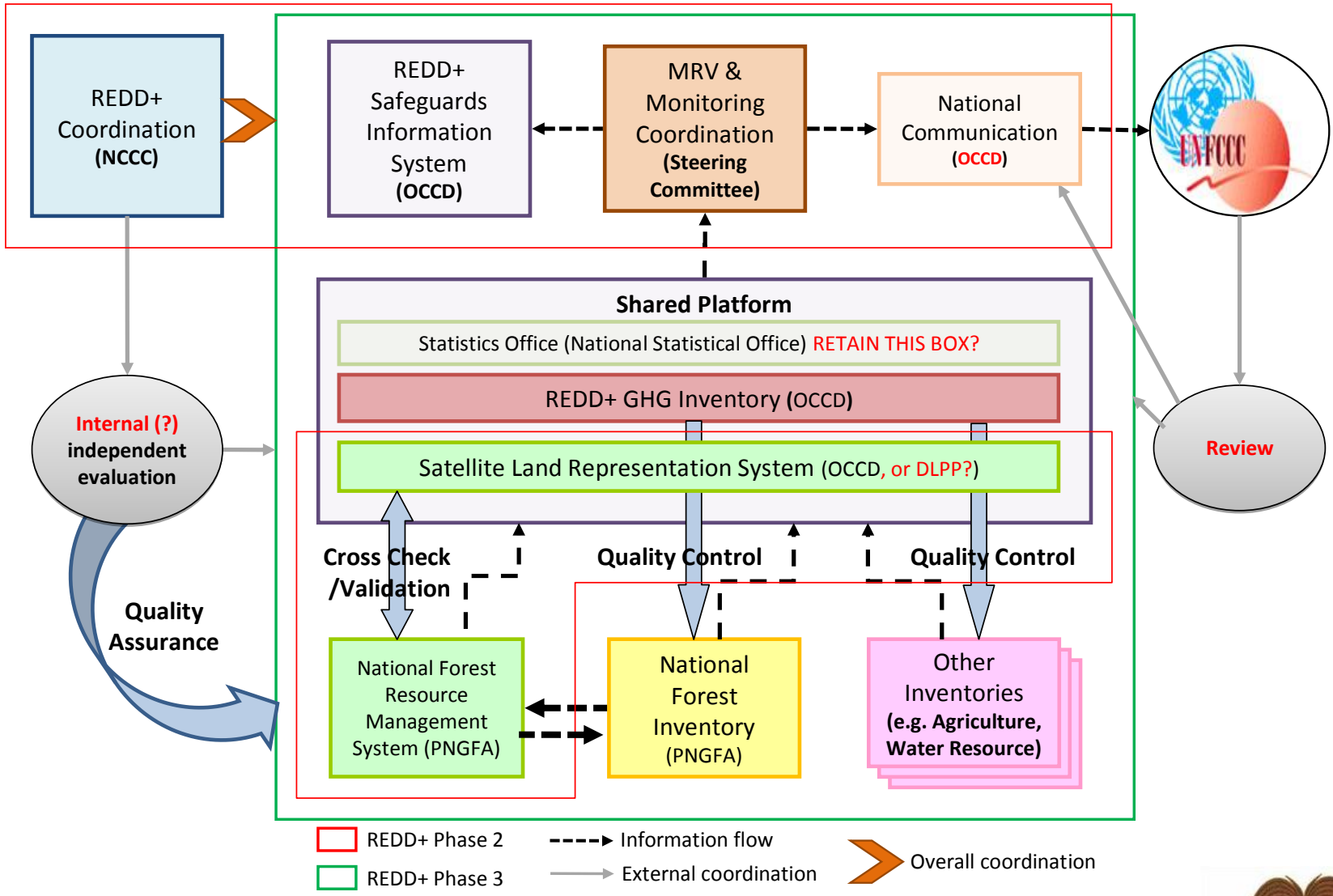
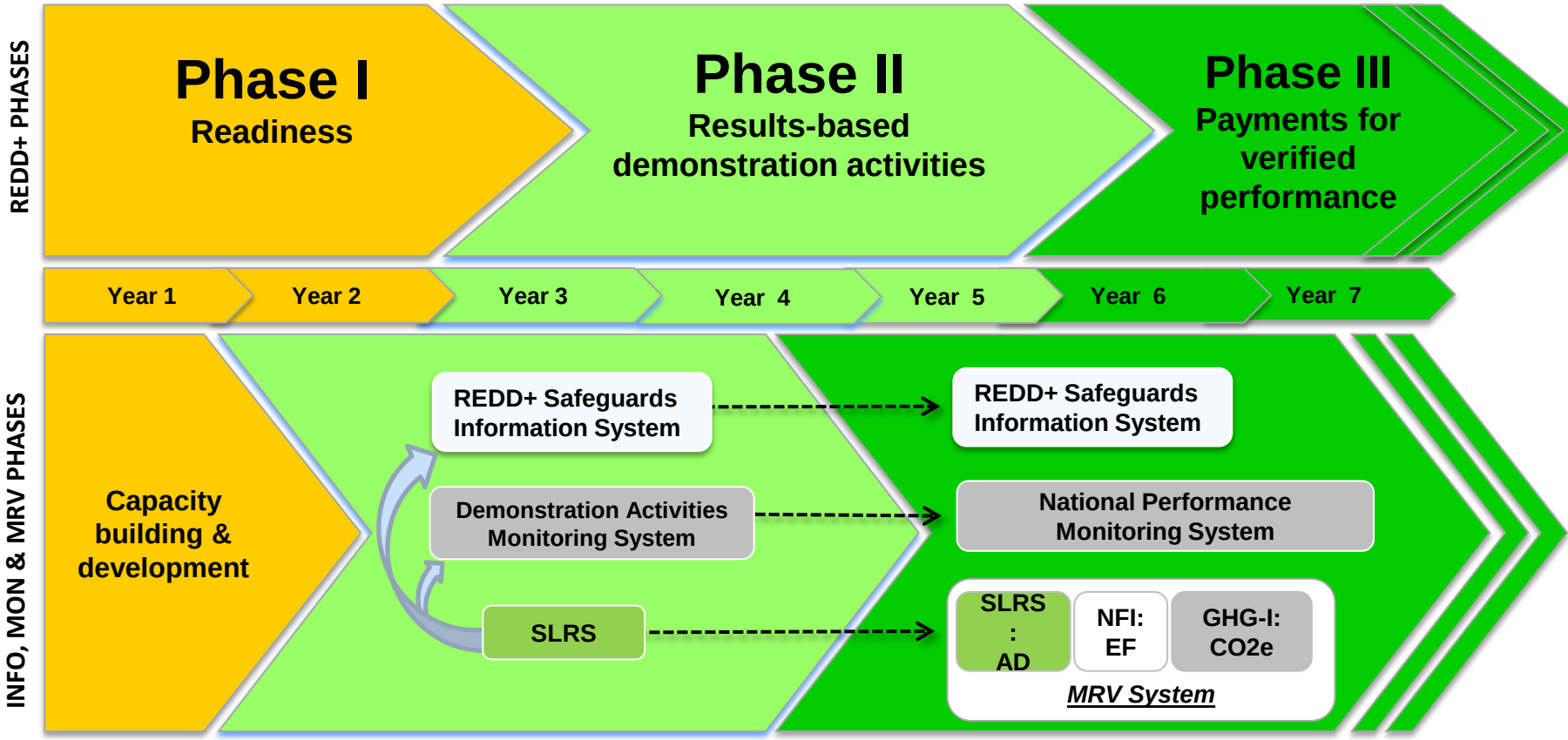
PNG INFORMATION, MONITORING & MRV ROAD MAP



INSTITUTIONAL ARRANGEMENT:



REDD+ PHASES & NFMS ELEMENTS: Bringing it all together



ONGOING ACTIVITIES:

- **MRV Technical Working Group: coordinated by OCCD with the participation of all the country relevant stakeholders;**

- **NEW 2011 Forest Map: coordinated by PNG Forest Authority with technical support from JICA. This map will be use as baseline to assess past and future forest changes;**

- **1st National Forest Inventory: coordinated by PNG Forest Authority with technical support from UN-REDD. The NFI it will be the key element to assess forest related emission/removal factors**

- **1st Information, Monitoring & MRV Action Plan: coordinated by OCCD participation of all relevant country institutions and relevant stakeholders;**

- **Prototype for a Satellite Land Monitoring System: coordinated by OCCD with technical support from UN-REDD and INPE. A team of PNG experts has attended a course in Brazil, the beta version of the prototype with its web-portal have been presented in Durban in COP17**

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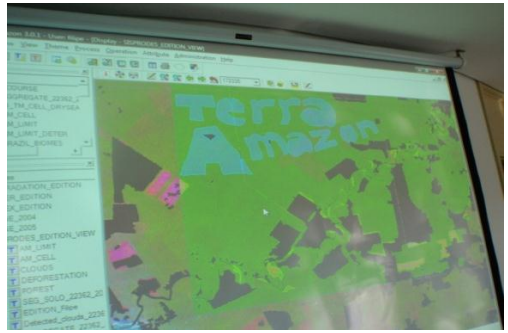
NFMS Web-Portal

START-UP PHASE:
development of a prototype for the National Forest Monitoring System

- **Build on existing national forest monitoring experiences**
- **FAO (UN-REDD) / INPE collaboration**
- **Two components: TerraPapua platform**
  National forest monitoring WEB-Portal
- **Combination of open-source database, user interface, tools and algorithms adapted according to country needs**
- **Free-of-charge and supported by analysis and programming teams in Brazil (INPE) and FAO**
- **linkage of information from other technical partners and contributors for analysis and verification.**

TERRAPAPUA PLATFORM:

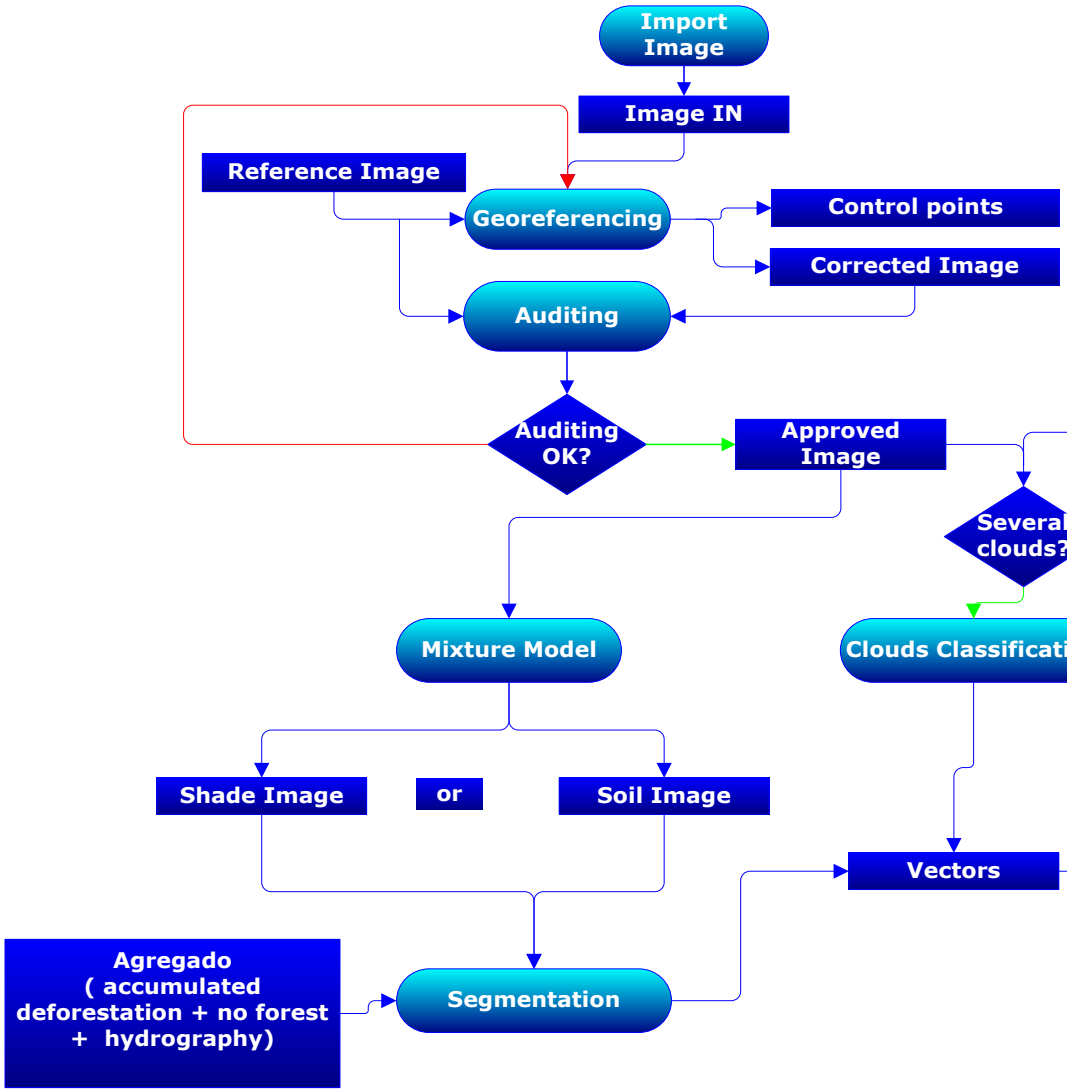


- Application of INPE national forest monitoring techniques and satellite image processing to PNG context (TerraAmazon software platform)
- Two weeks training on software utilities at INPE Amazonia, Belem, Brazil (Sept 2011)
- Follow-up and country implementation in FAO-HQ (on going in Rome, 21Nov-2Dec 2011)

BUILD ON TERRAAMAZON PLATFORM:

- **RS/GIS software platform designed to be a multi-user editor of geographic vectorial data stored in a unified database**
- **Free of charge (open-source)**
- **Self sustaining system (open to improvements)**
- **Up to 20 concurrent users during the interpretation phase**

TERRAAMAZON IN BRAZIL:



PRODES Methodology

Outputs:

Yearly deforestation map

Statistics on deforestation area

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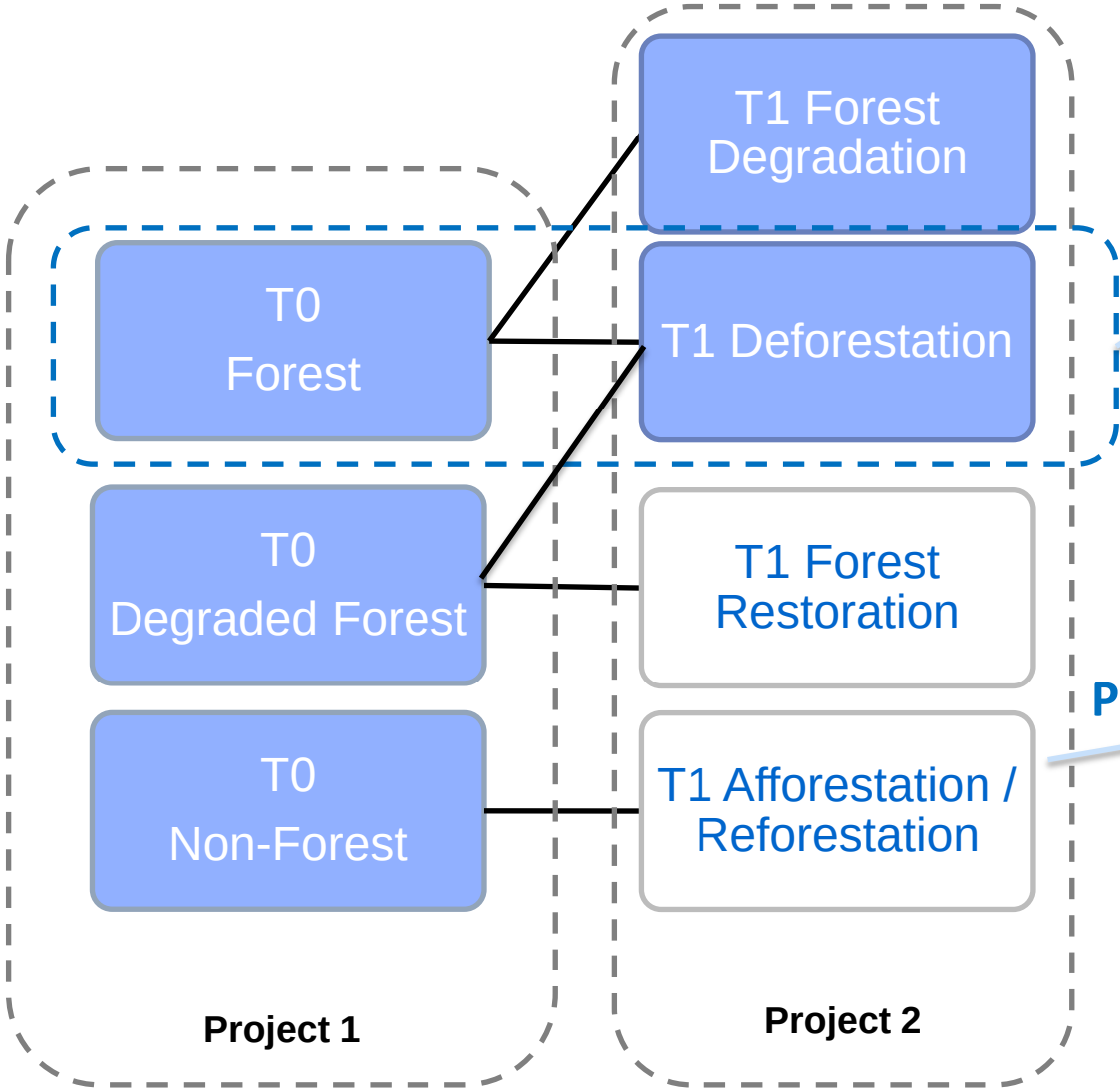
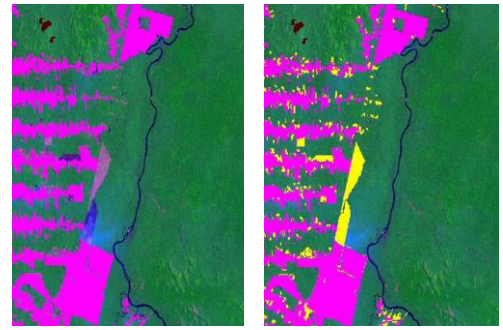
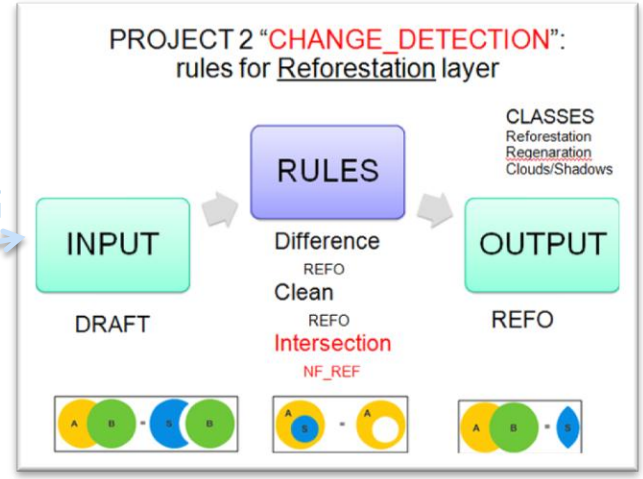
PNG CONCEPTUAL MODEL:



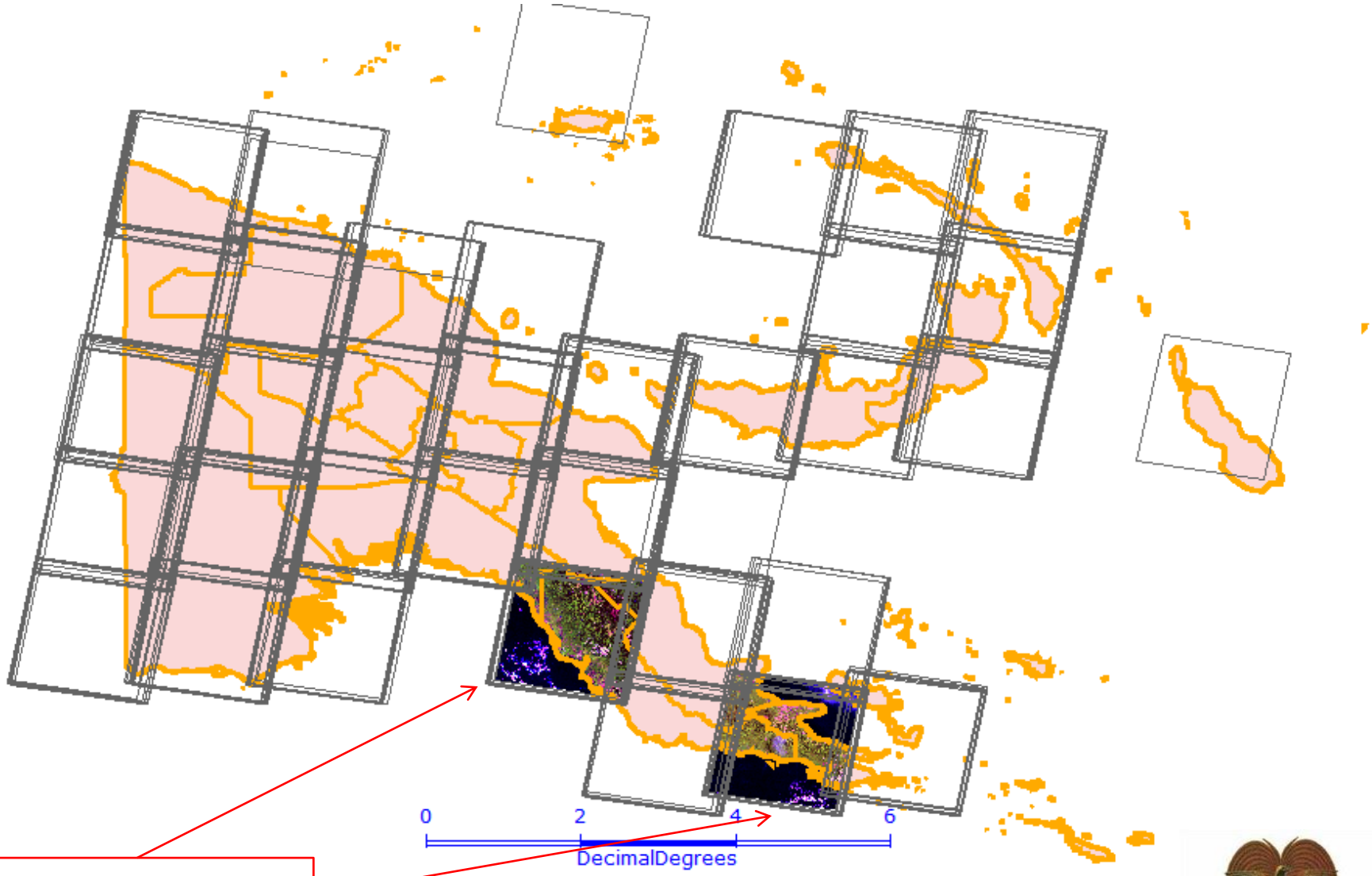
INPE



PNG



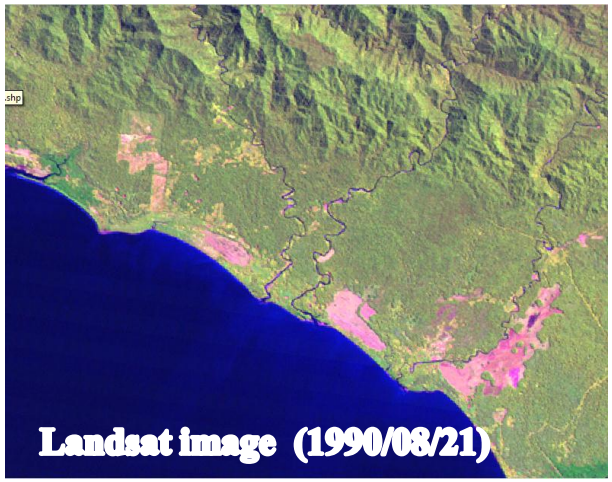
TERRA-PAPUA WORKSHOP **FAO HQ, 21Nov.–2Dec2011:**

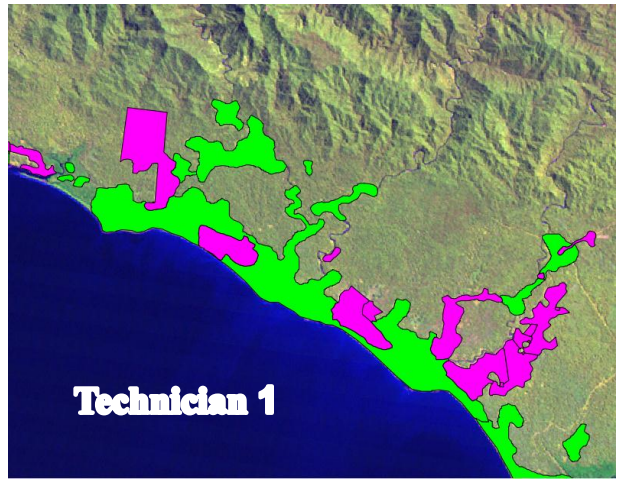


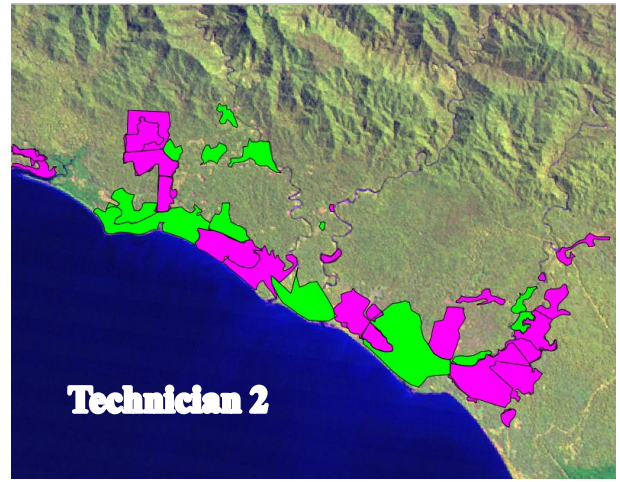
TEST AREAS

TERRA-PAPUA WORKSHOP
CALIBRATION OF IMAGE INTERPRETATION:

FAO HQ, 21Nov.–2Dec2011



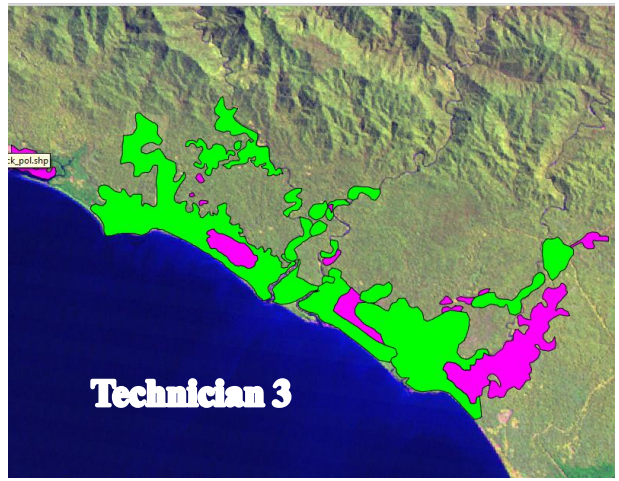


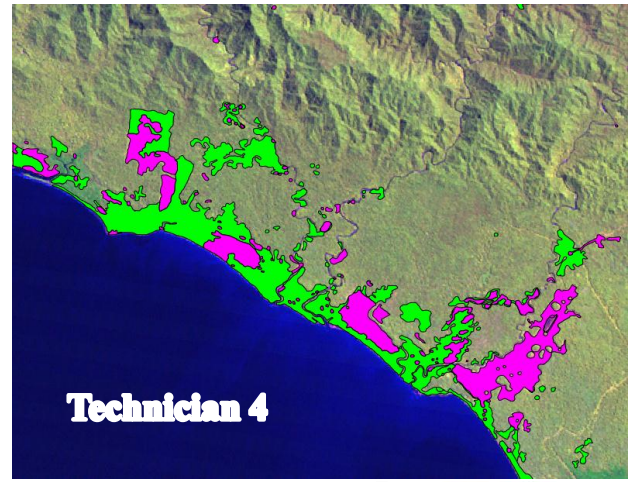


CLOUDS/SHADOWS

DEGRADED FOREST

NON FOREST





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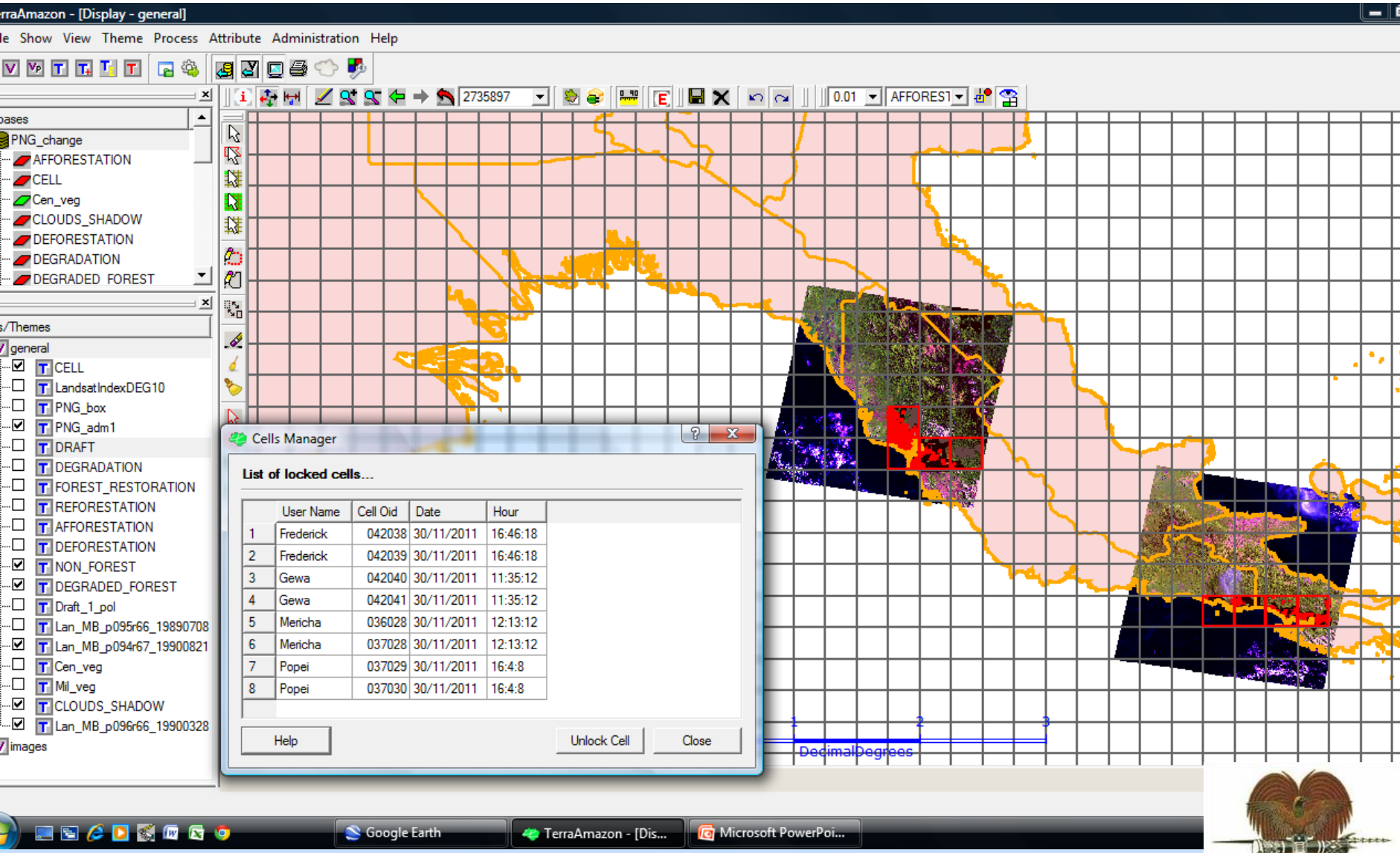
TERRA-PAPUA WORKSHOP
MULTI-USER EDITION:

FAO HQ, 21Nov.–2Dec2011



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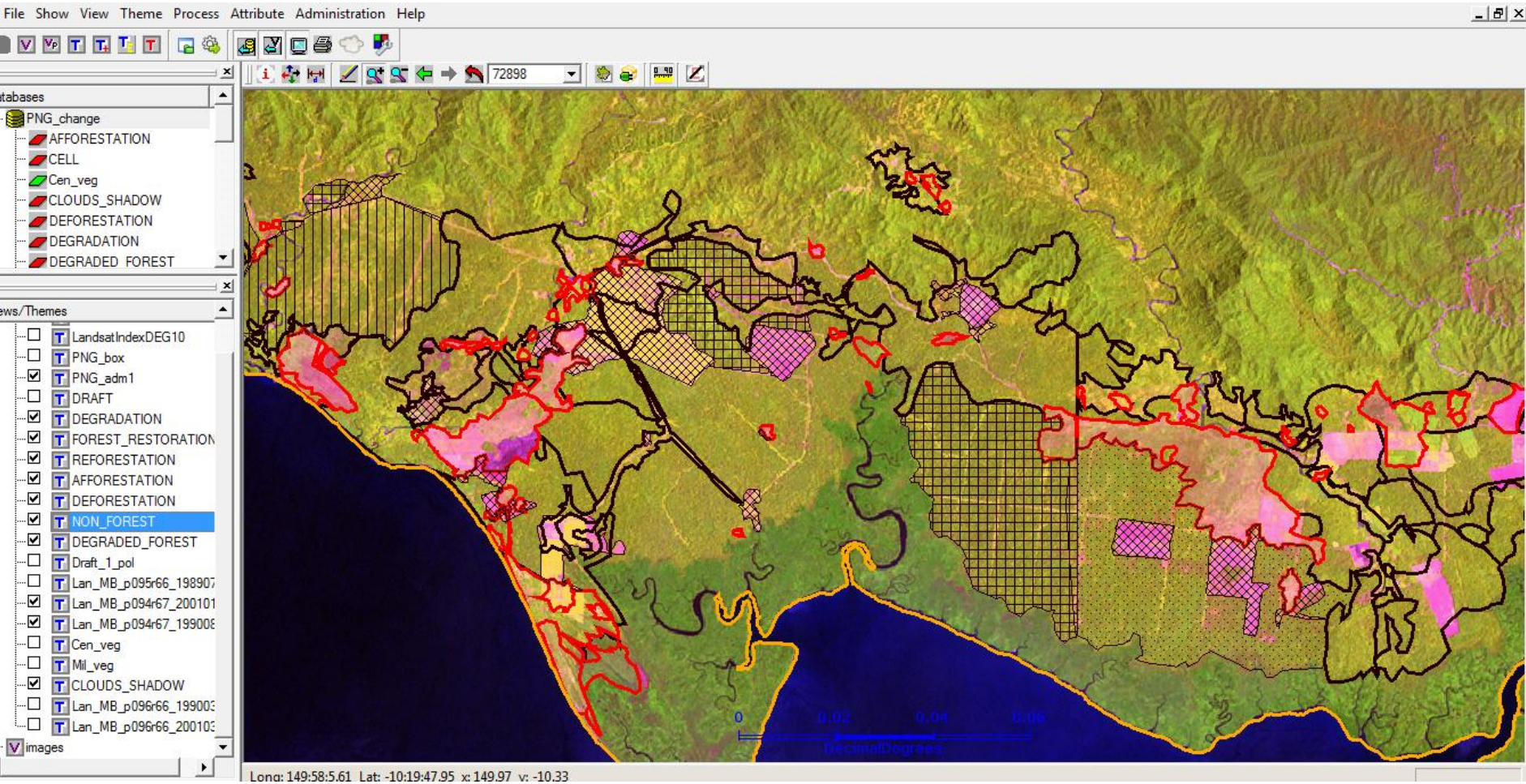
TERRA-PAPUA WORKSHOP RESULTS:

FAO HQ, 21Nov.–2Dec2011



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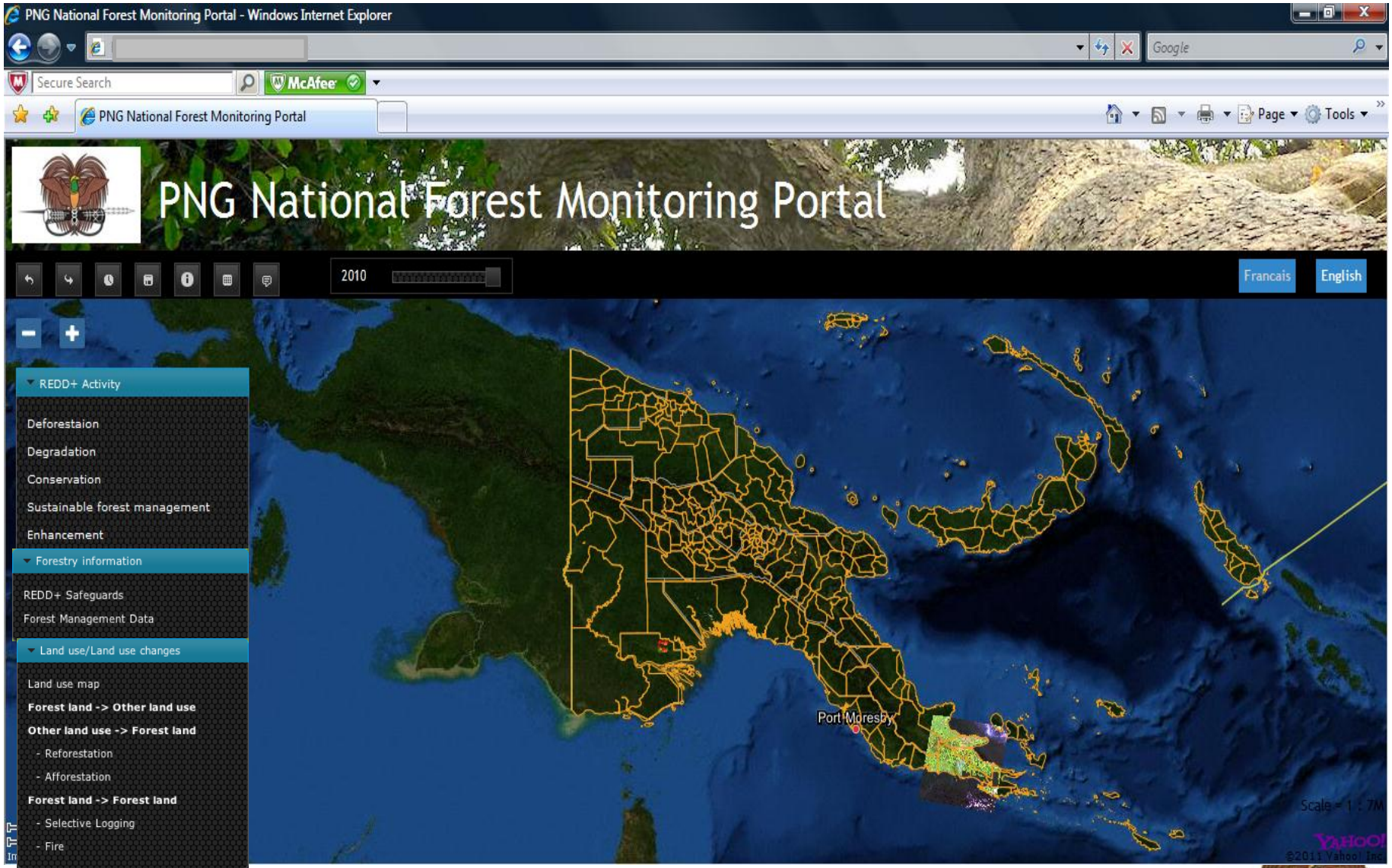
PAPUA NEW GUINEA NATIONAL FOREST MONITORING WEB-PORTAL:

- **Web portal under development through the support of FAO, UN-REDD Programme , expected to be on-line June 2012**
- **Enable the country to follow all the actions related to the implementation of its national REDD+ policies and measures and to communicate its results to the international community (transparent and open data access)**

In practice…

- **Allow any user to interact with the system through a web-interface;**
- **Visualise data; download statistics; visualise information on logging concessions, protected areas, REDD+ activities,....**
- **Allow users to provide feedback on areas of deforestation, etc.**

PAPUA NEW GUINEA NATIONAL FOREST MONITORING WEB-PORTAL:



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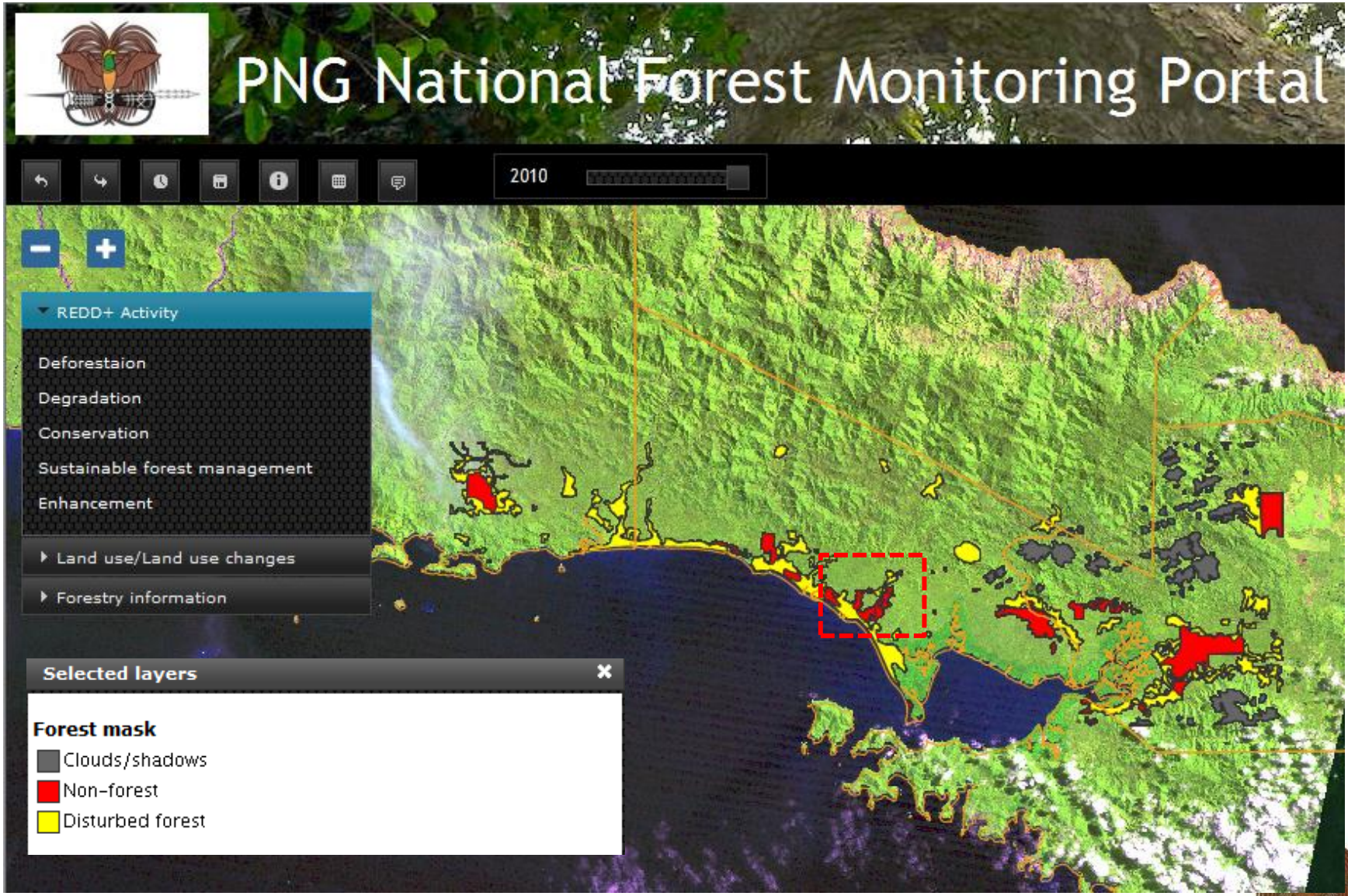
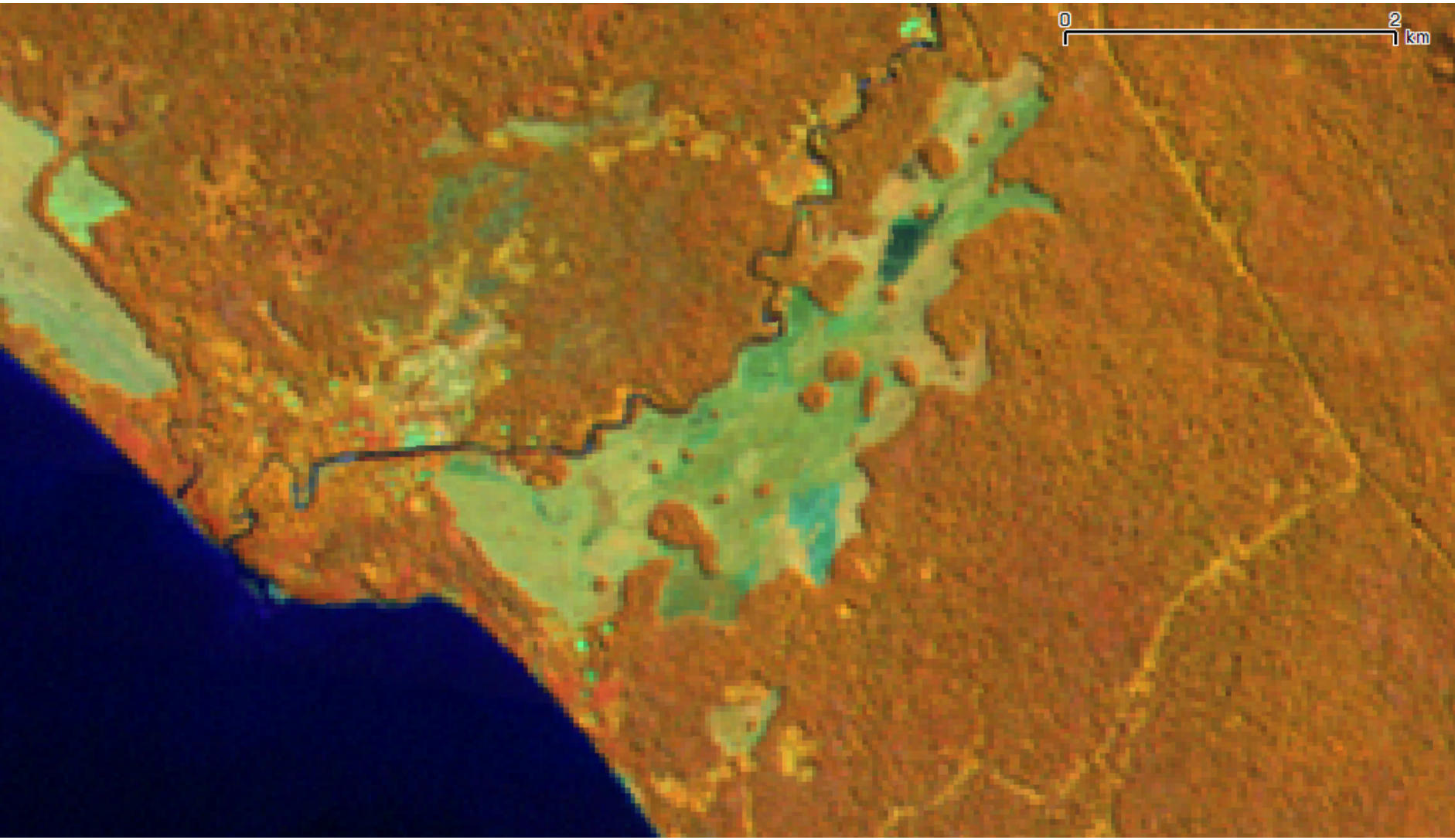


LANDSAT 1990



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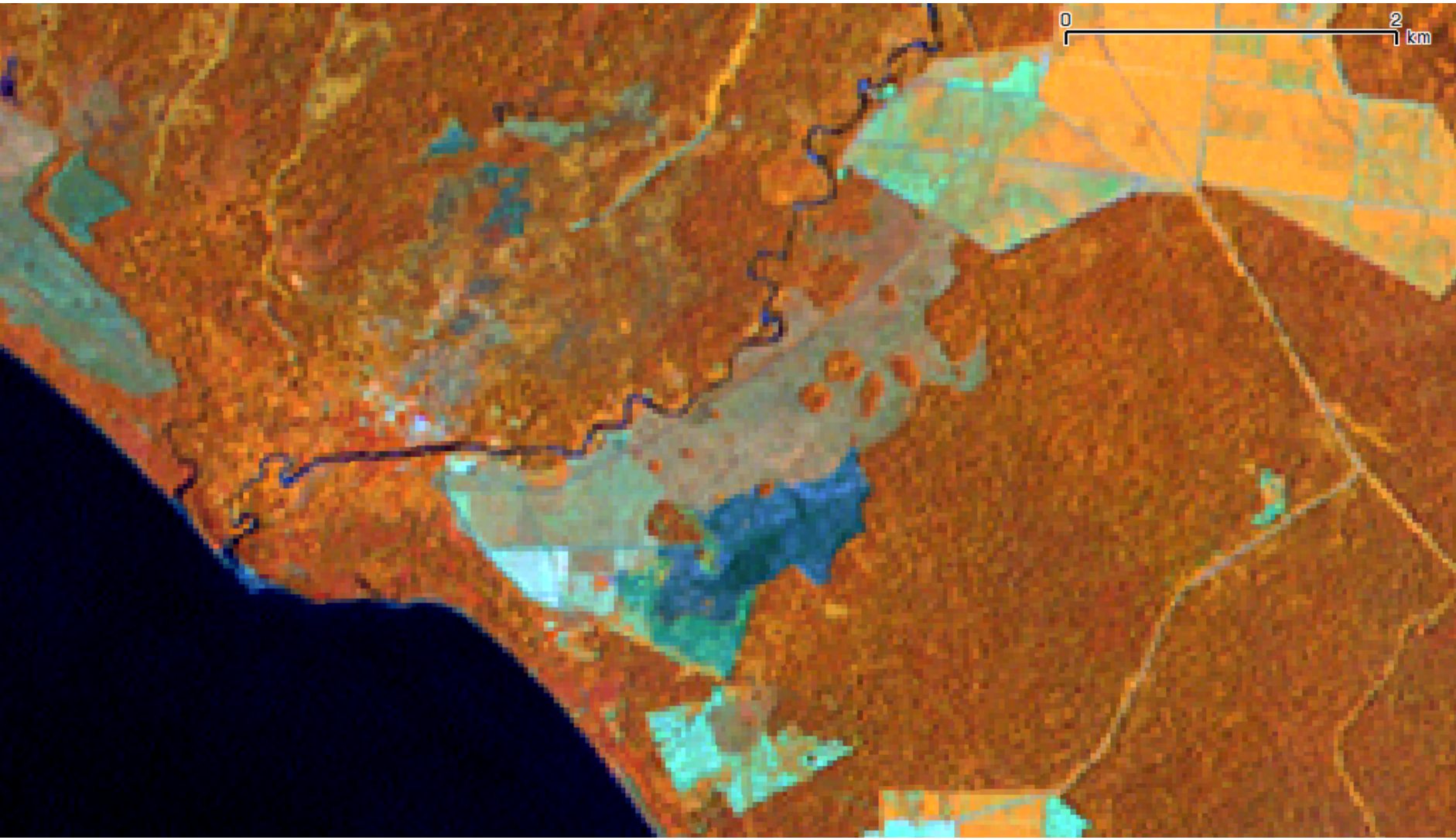

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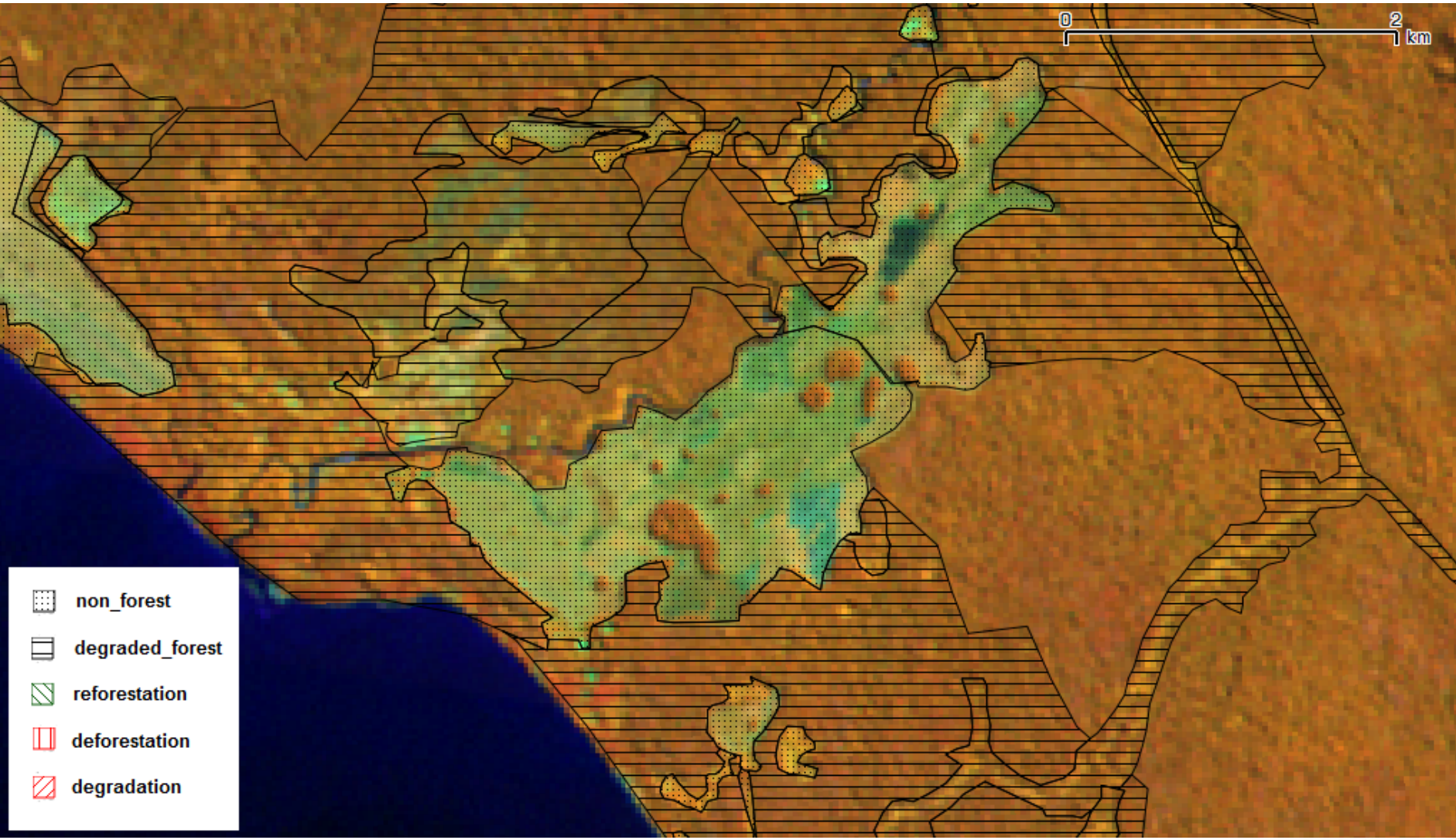
LAND USE ASSESSMENT 1990



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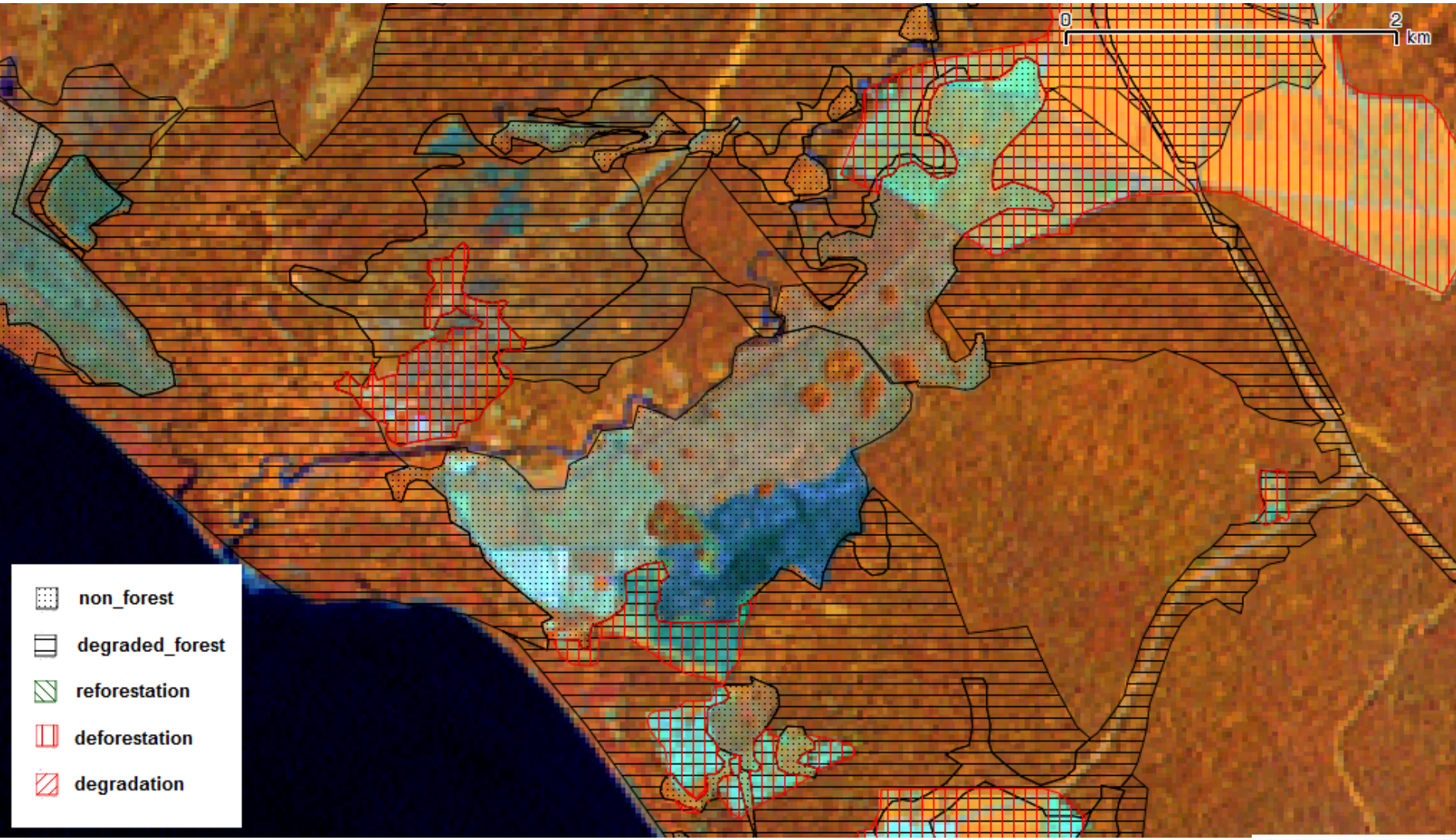
LAND USE ASSESSMENT 2000



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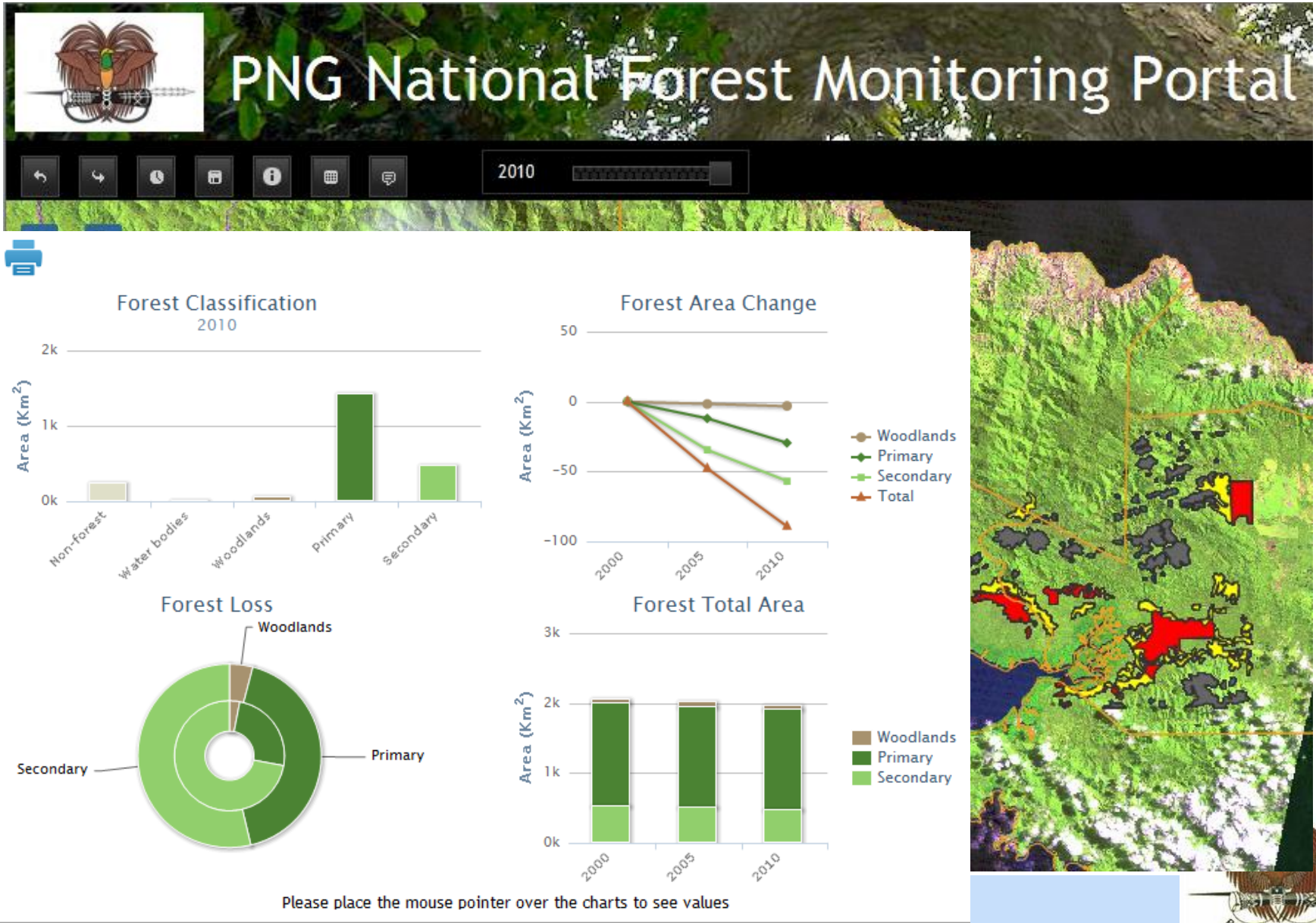
PAPUA NEW GUINEA NATIONAL FOREST MONITORING PORTAL:



Summary

1. Forest monitoring is required to assess the outcomes of REDD+ activities
   - Are the activities working??
2. Forest monitoring can also provide useful information on the REDD+ safeguards
3. Online “web-GIS portals” can allow open access to forest monitoring (and therefore some safeguard) information
4. Forest monitoring is not a silver bullet!
   - Useful for as part of the ***system to provide information*** on the safeguards
   - Other information is needed!

Contact

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