Papua New Guinea's experiences on developing the National Forest Monitoring Portal

Workshop Document

09-11 October 2013, OCCD

**Office of Climate Change and Development
Papua New Guinea**

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1. Objectives and Outcomes
2. PNG UN-REDD Programme
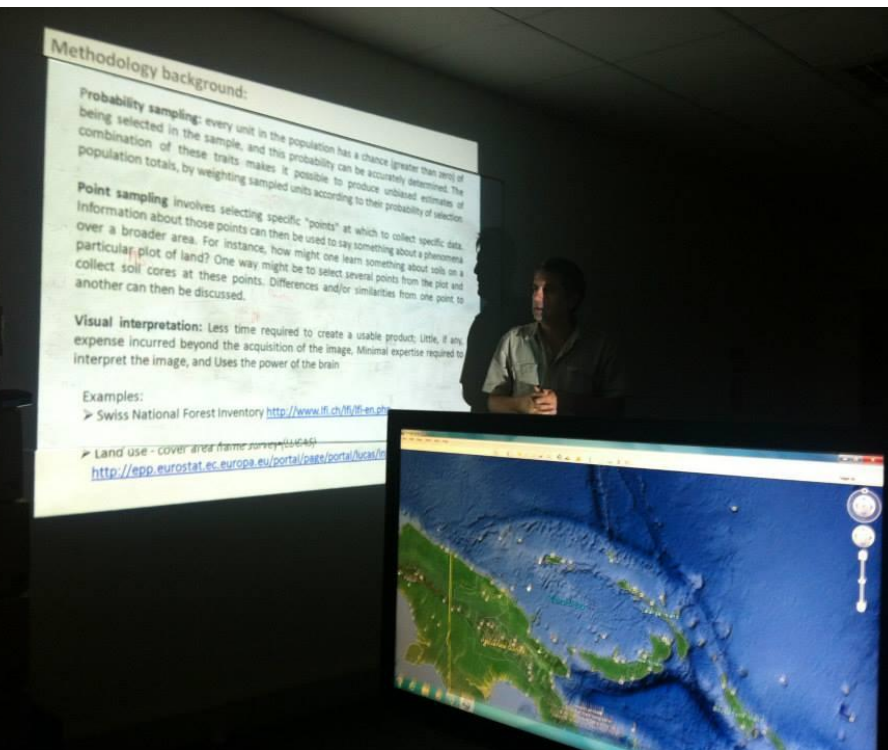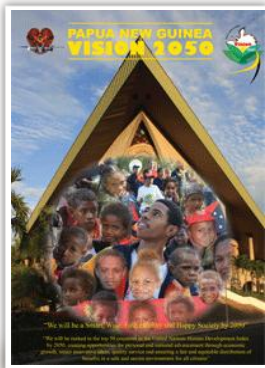3. National Monitoring System
4. Way Forward
5. Summary
6. Q & A

Objectives

1. Sharing PNG's experiences working towards the National Monitoring System

PNG has translated its country's constitutional priorities and long-term development goals into tangible actions

Vision 2050, Pillar 5: Environmental Sustainability and Climate Change

Development Strategic Plan, 2010-2050

Medium Term Development Plan, 2011-2015

CCDS & IAP

PNG's climate compatible development strategy (CCDS) has identified the country's mitigation and adaptation priorities, which have been translated into tangible actions in the Interim Action Plan (IAP)

OCCD Corporate Plan, 2011-2013

NEC Decision, 54/2010

OCCD: Implementation Plan

Annual Workplan, 2013

The Climate-Compatible Development Strategy (CCDS) and Interim Action Plan (IAP) address climate change in a comprehensive way …

B

REDD+

LCG & Mitigation

Adaptation

MRV

National consultation

Institution
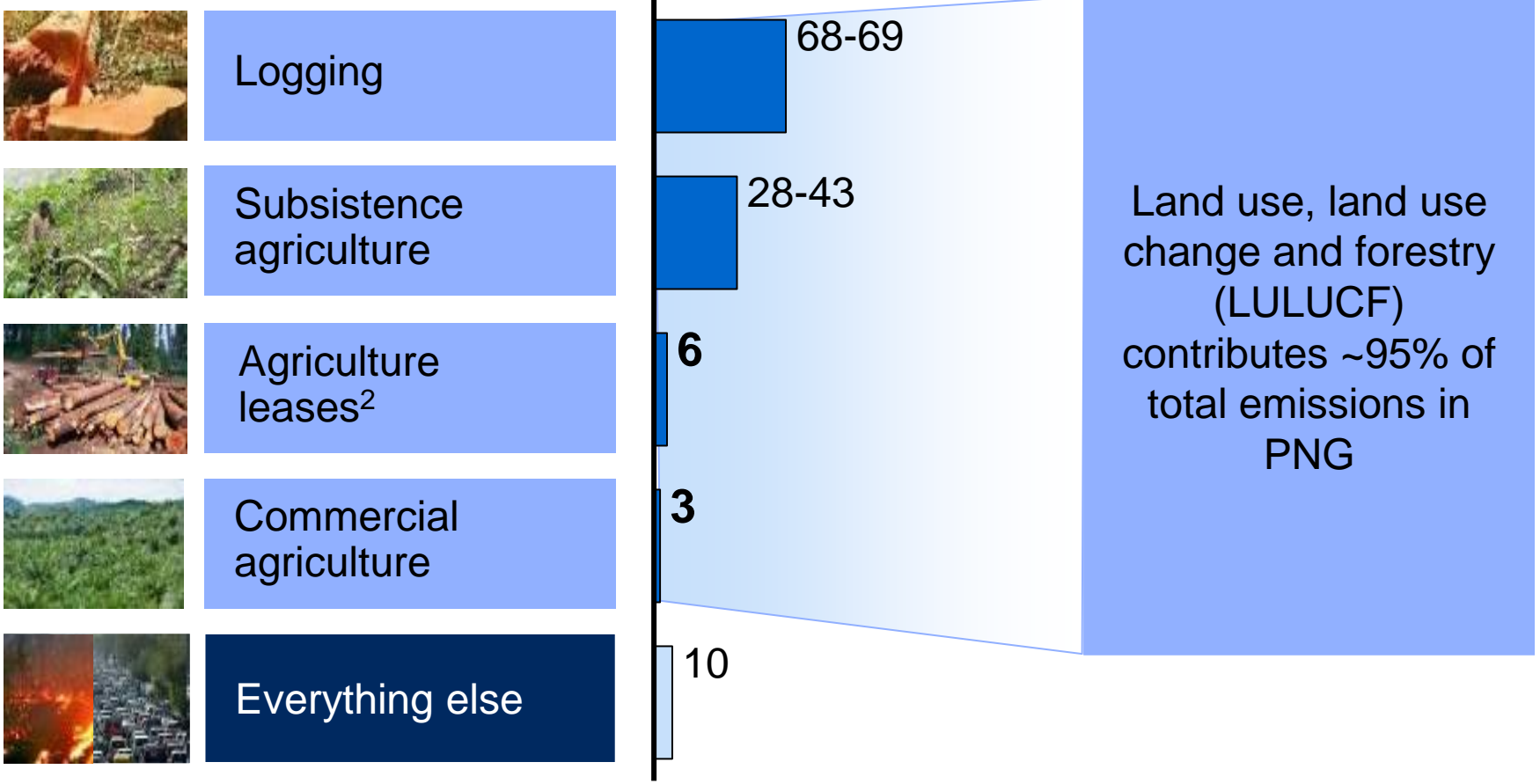
C Forestry and agriculture is the biggest driver of emissions in PNG

Driver of emissions

2010 emissions[1]
Mt CO$_2$e

Driver of emissions	2010 emissions (Mt CO$_2$e)
Logging	68-69
Subsistence agriculture	28-43
Agriculture leases[2]	6
Commercial agriculture	3
Everything else	10

Land use, land use change and forestry (LULUCF) contributes ~95% of total emissions in PNG

1 Estimate of 2010 extrapolated from 2008/09 data
2 Exact emission for 2010 still to be verified

UN-REDD National Programme

Objectives of PNG's UN-REDD National Programme

- Support the Government of PNG to **progress its activities towards REDD-plus readiness**

- **Complement 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

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**

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

UN-REDD

MRV

Readiness management

Carbon rights

Strategy development

Safe-guards

Benefit sharing mechanism

Stakeholder management

Dispute resolution

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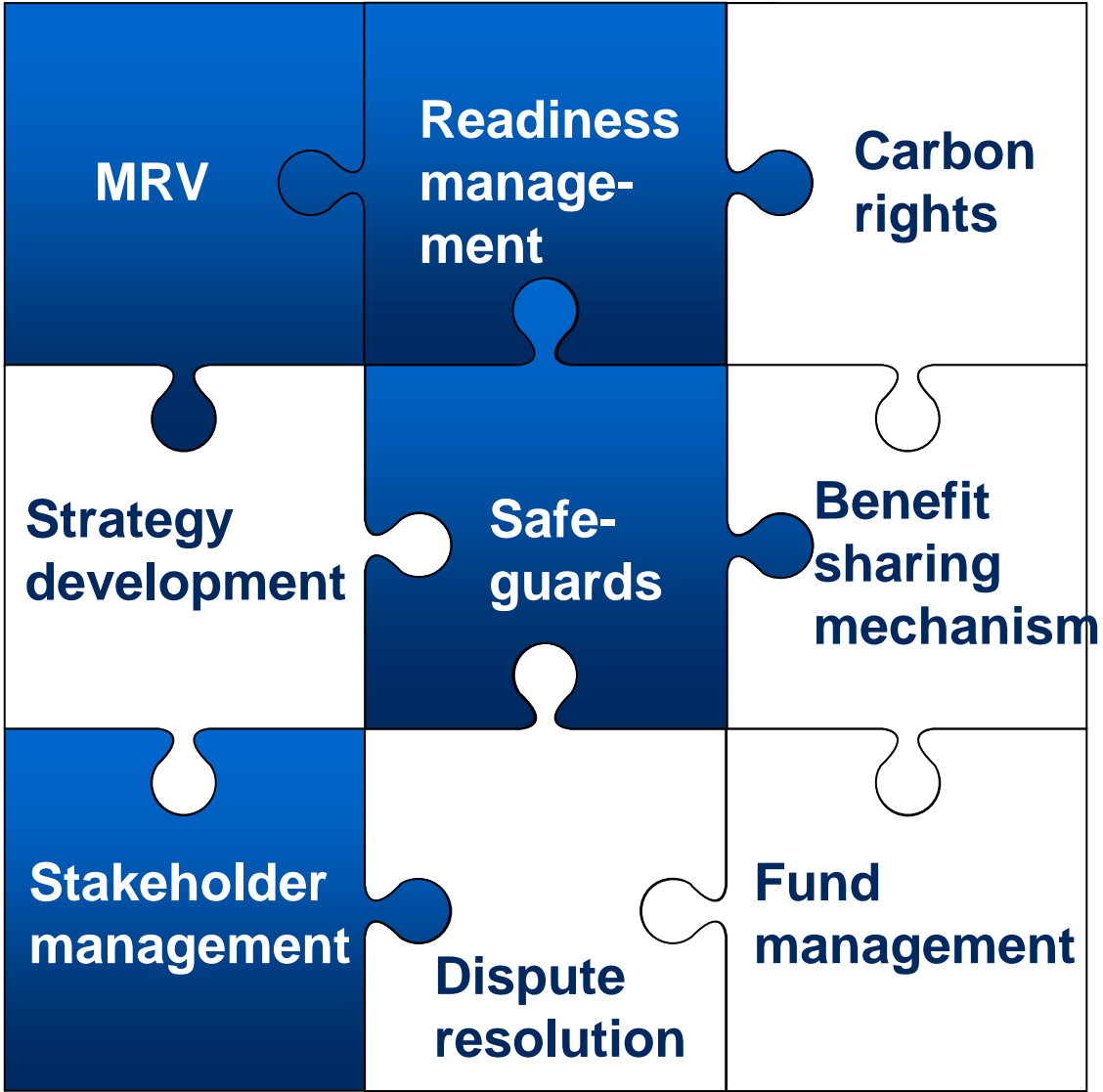
PNG's UN-REDD NP is expected to deliver on five outcomes

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	Relevant UN-REDD NP Outcome
REDD+	▪ **REDD+ pilots** for key abatement levers ▪ REDD+ readiness, e.g., **benefit sharing approach**	**1. Readiness Management Arrangements in Place**
Low-carbon growth	▪ **Rural electrification**, e.g., new micro hydro plants ▪ **Energy efficiency** measures ▪ **Renewable Energy**, e.g., geothermal	**3. Historical Drivers of Deforestation Assessed** **4. Monitoring of Abatement Concepts Supported**
Adapta-tion	▪ **Mangrove** planting ▪ **Coastal Early Warning System** ▪ **Food security and agricultural yield changes**	
MRV & Cons.	▪ **MRV System** ▪ **Consultation, education, awareness** ▪ **Second National Communication**	**2. National MRV System Developed** **5. Framework for Stakeholder Engagement Processes in place**
Others	A number of priorities, e.g., ▪ Securing **interim funding** of USD 50 million ▪ Draft **Climate Change Act**	

The National Programme allocates funding to 5 outcomes
USD Millions

Total Agency contribution by outcome

100% = USD 6.4 million[1]

1. Readiness Management Arrangements in Place

5. Framework for Stakeholder Engagement Processes in place

4. Monitoring of abatement concepts supported

7

5

6

5

77

2. National Information, Monitoring and MRV System Developed

3. Historical Drivers of Deforestation Assessed
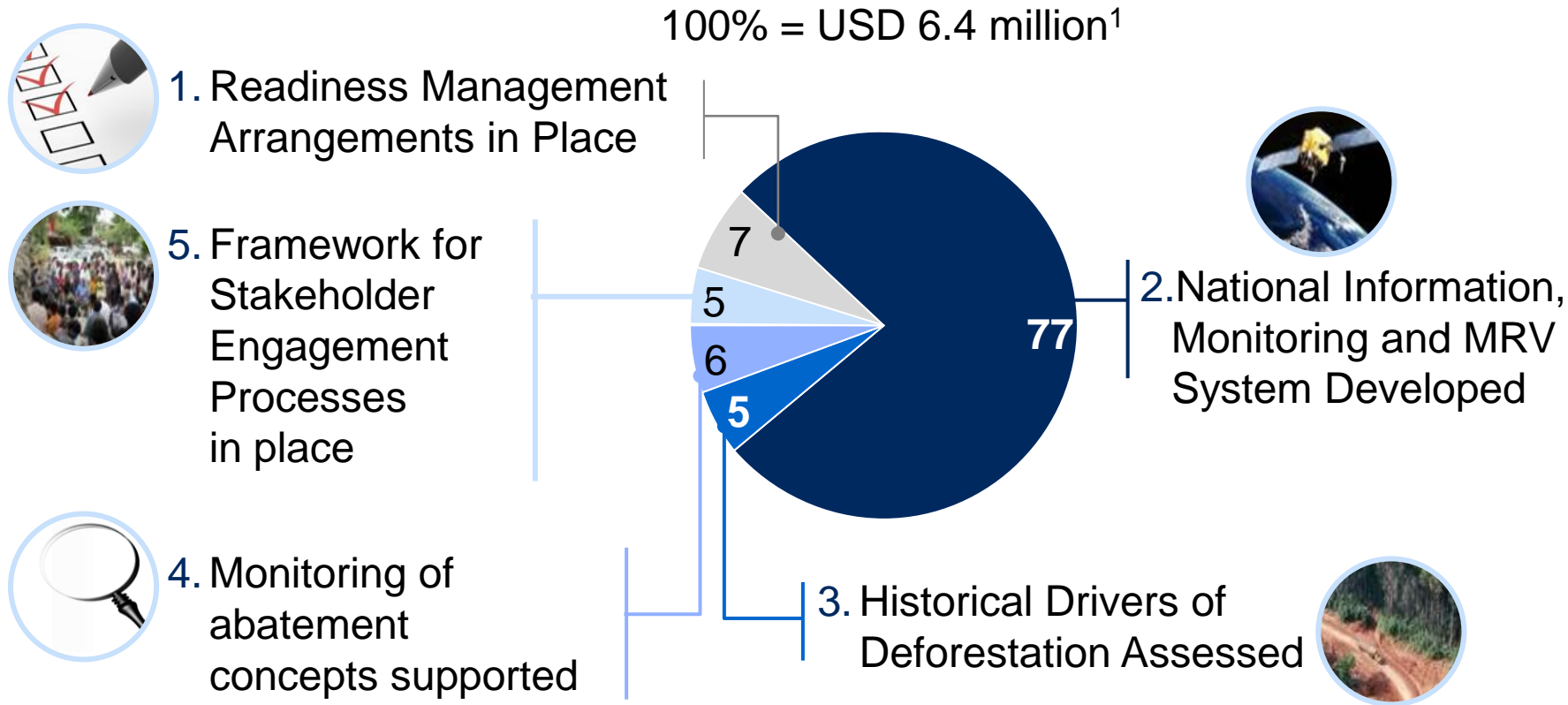
1 Includes 7% Agency indirect support costs

National 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).**

PNG INFORMATION, MONITORING & MRV ROAD MAP

REDD+	PHASE I	PHASE II	PHASE III
Inf., M&MRV Action Plan	Preparation / Approval		
SLRS	Prototype developed / Test - measurement	Monitoring demo activities	Monitoring REDD+ activities IPCC activity data
Inf. Syst. REDD+	FAO / AUS proposal / Prototype developed	Operational	
NFI	Design / Field operations / data analysis		
GHG/MRV	Design / development	Test – REL/RL	Operational

2011   2012   2013   2016   2018

INSTITUTIONAL ARRANGEMENT:
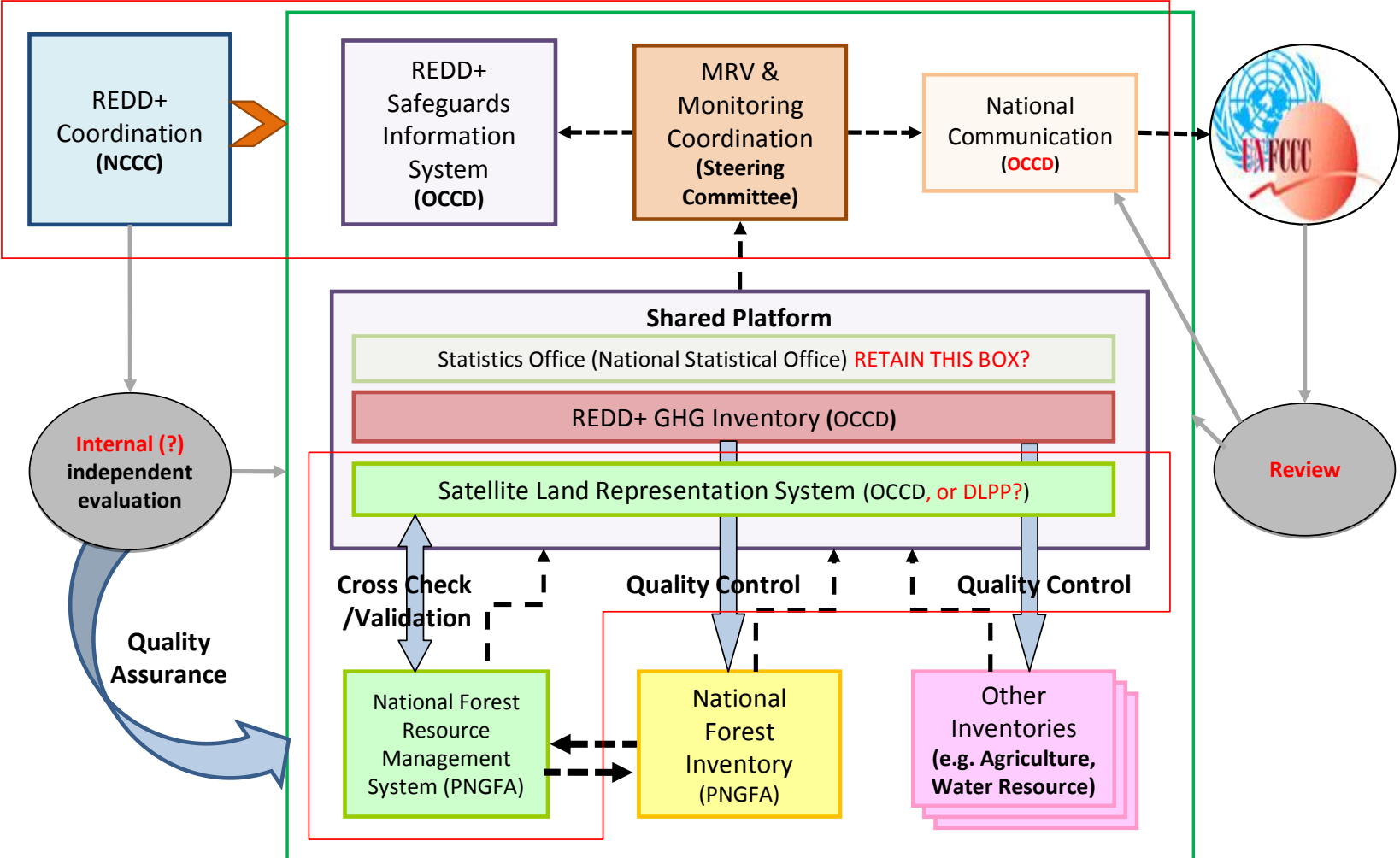
REDD+ Phase 2 — Information flow
REDD+ Phase 3 — External coordination — Overall coordination

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

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
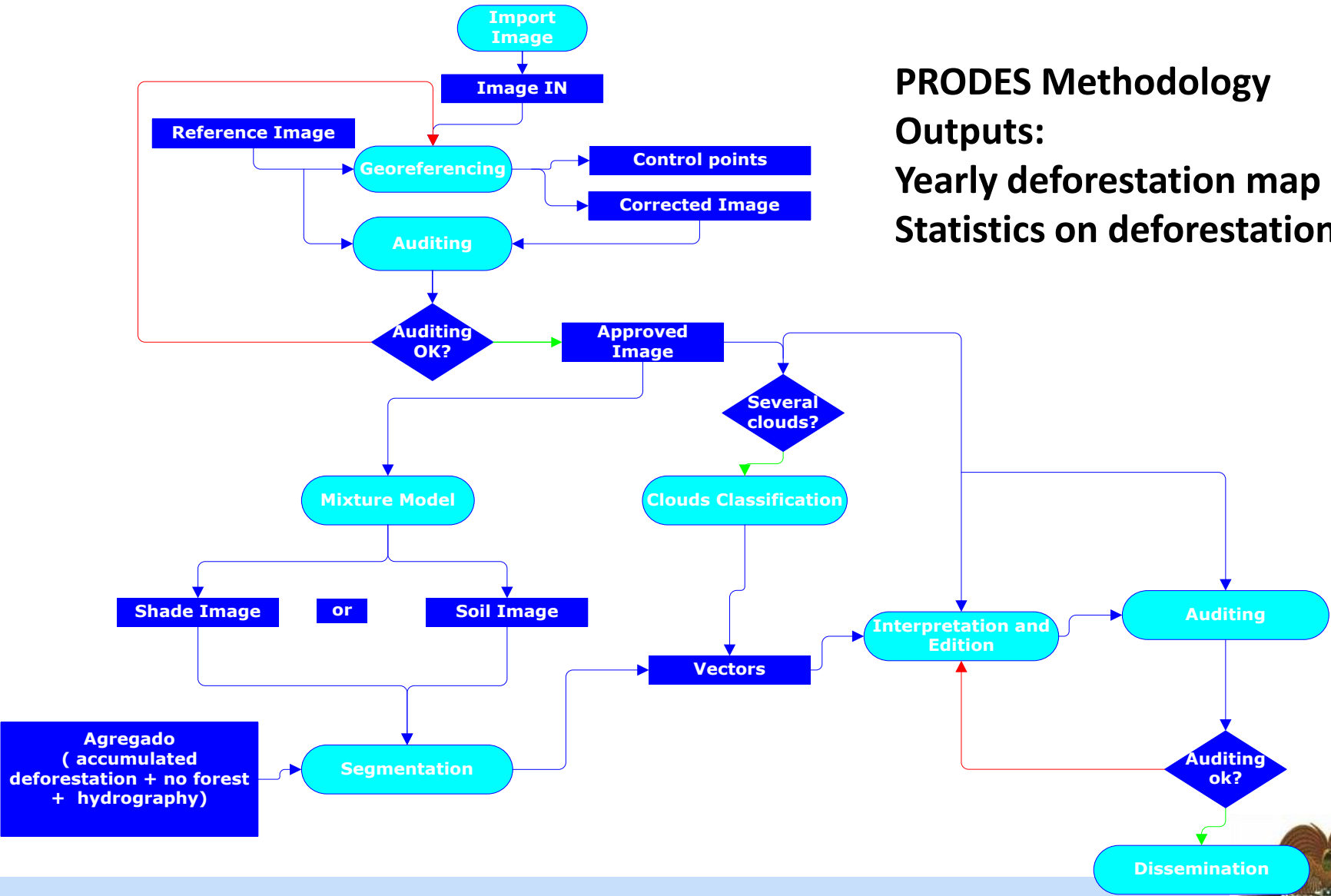
PNG CONCEPTUAL MODEL:
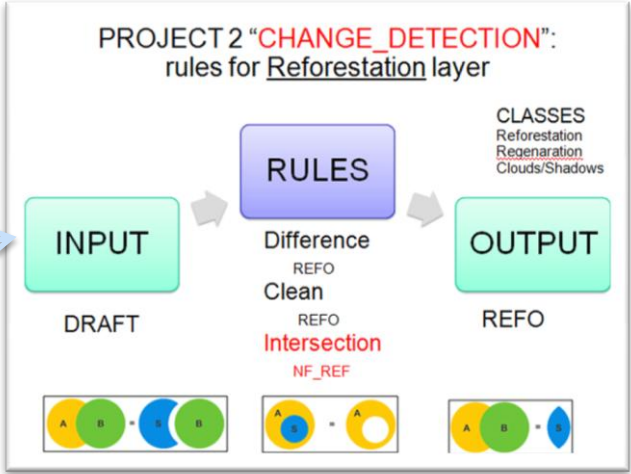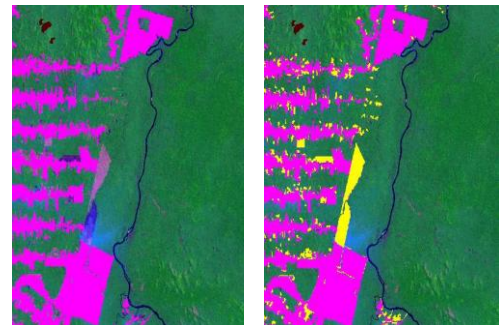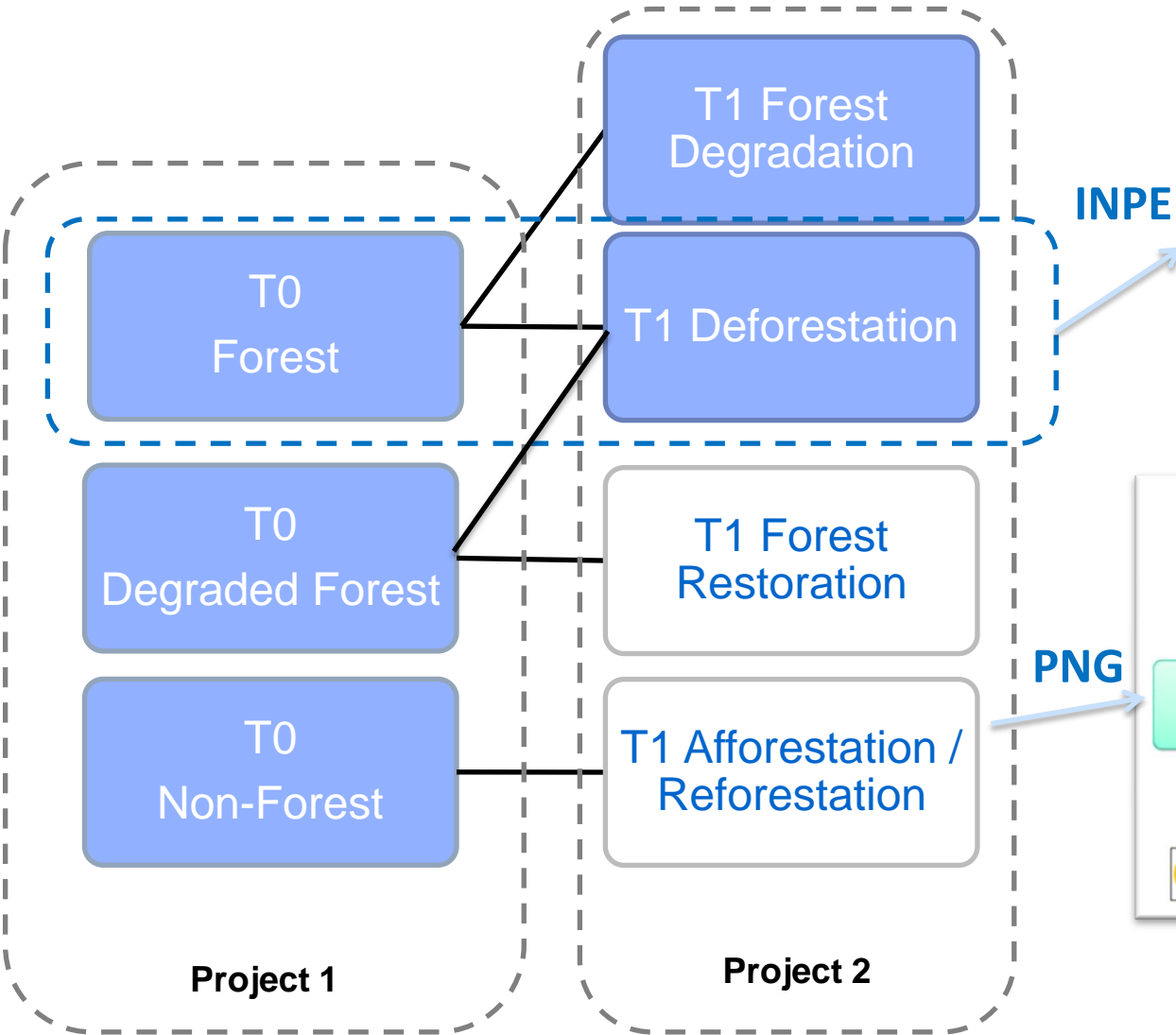
TERRA-PAPUA WORKSHOP FAO HQ, 21Nov.–2Dec2011:
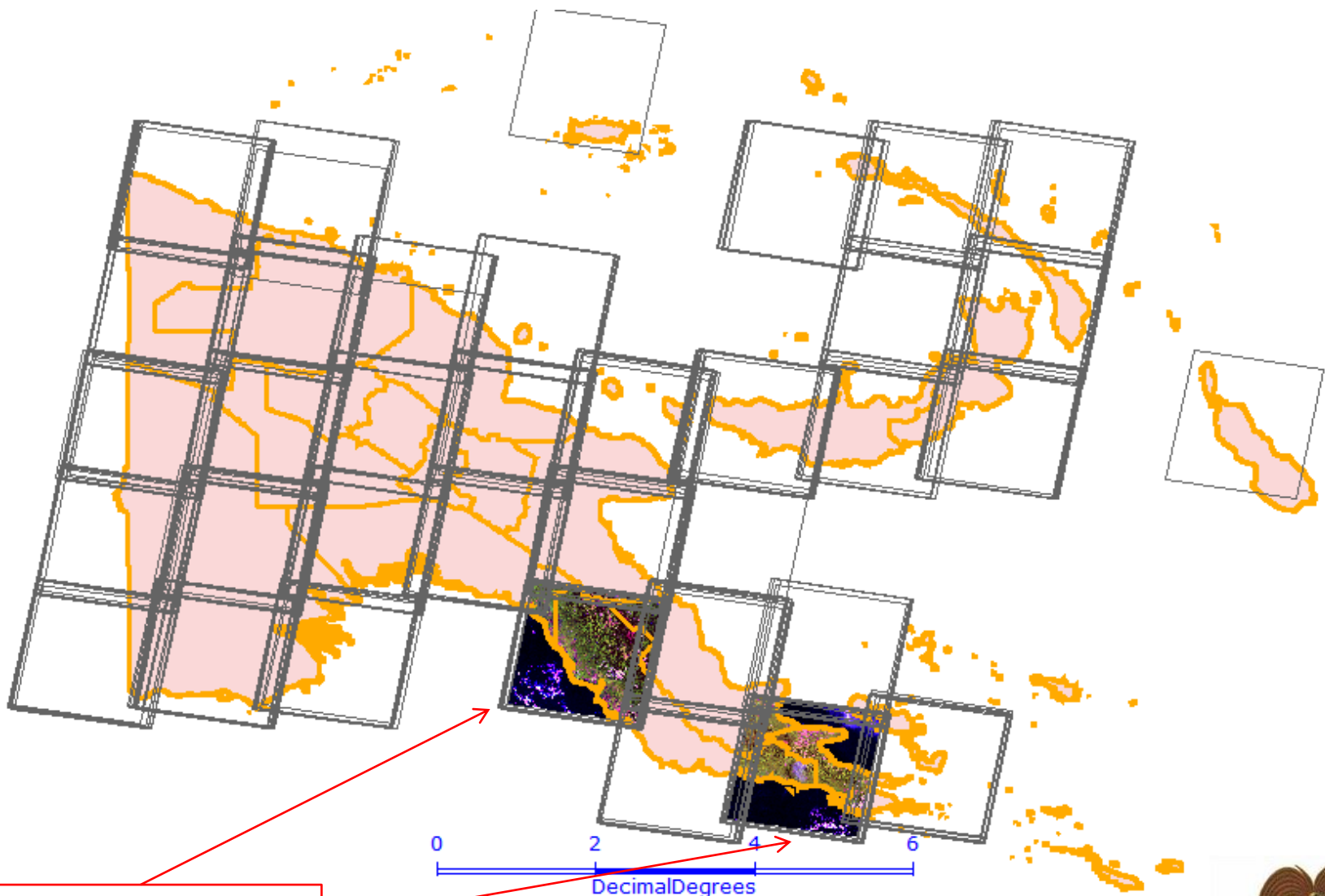
TEST AREAS

TERRA-PAPUA WORKSHOP
CALIBRATION OF IMAGE INTERPRETATION: FAO HQ, 21Nov.–2Dec2011

Landsat image (1990/08/21)

Technician 1

Technician 2

Technician 3

Technician 4
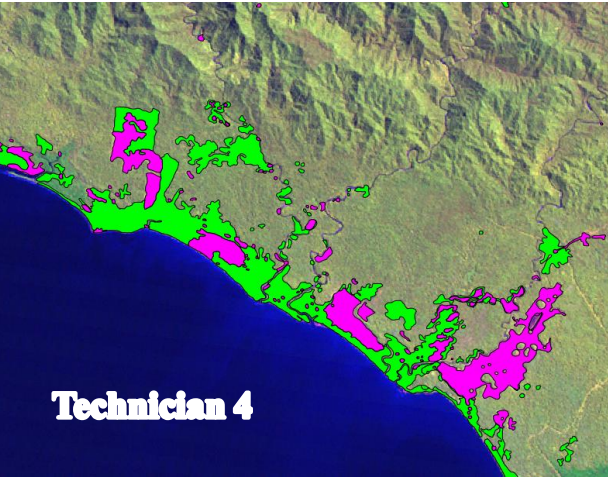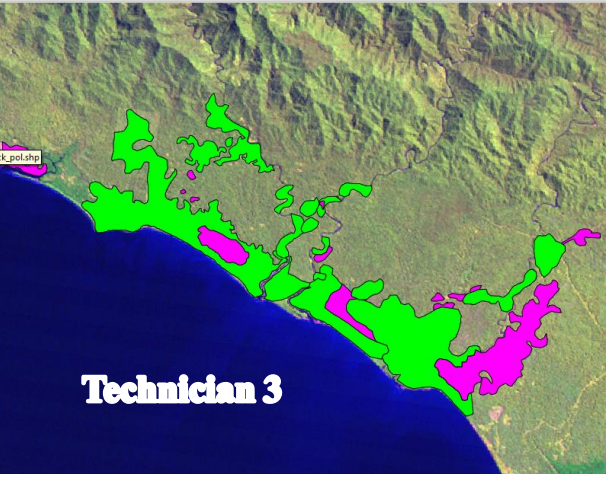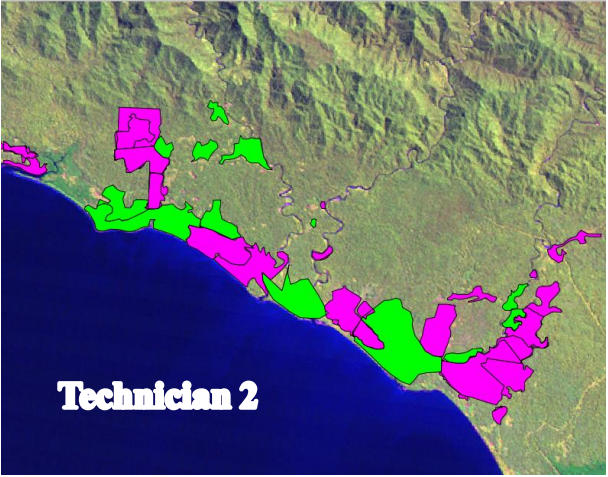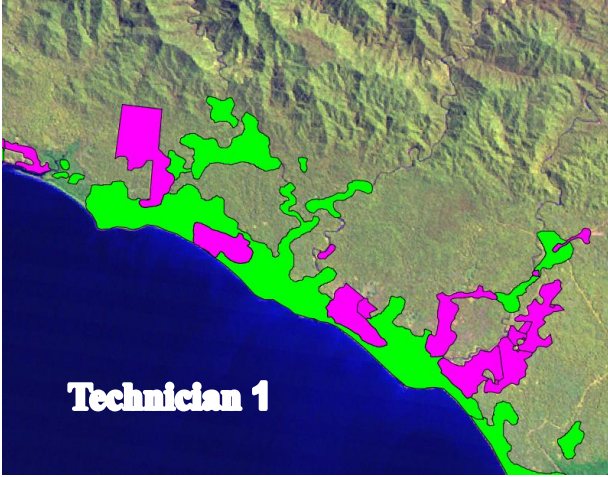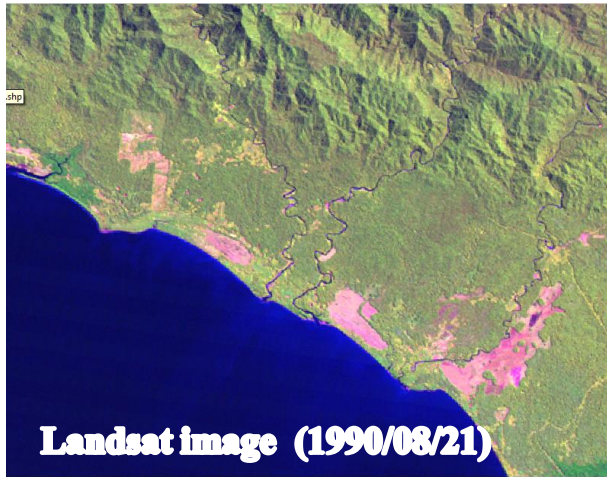
CLOUDS/SHADOWS

DEGRADED FOREST

NON FOREST

TERRA-PAPUA WORKSHOP
MULTI-USER EDITION:

FAO HQ, 21Nov.–2Dec2011

TERRA-PAPUA WORKSHOP RESULTS:

FAO HQ, 21Nov.–2Dec2011
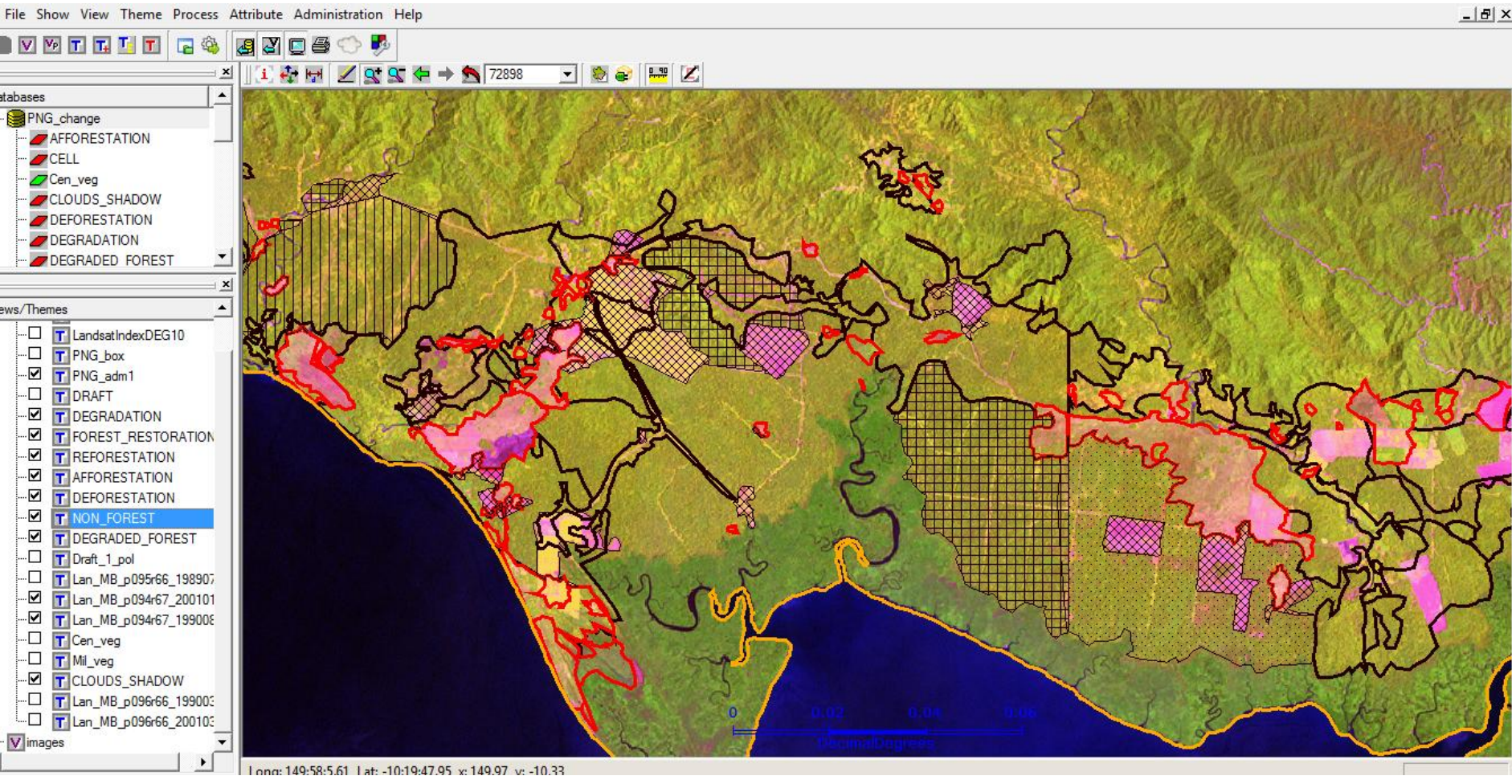
National Monitoring System Web-Portal

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 2014**
- **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

PAPUA NEW GUINEA NATIONAL FOREST MONITORING WEB-PORTAL:
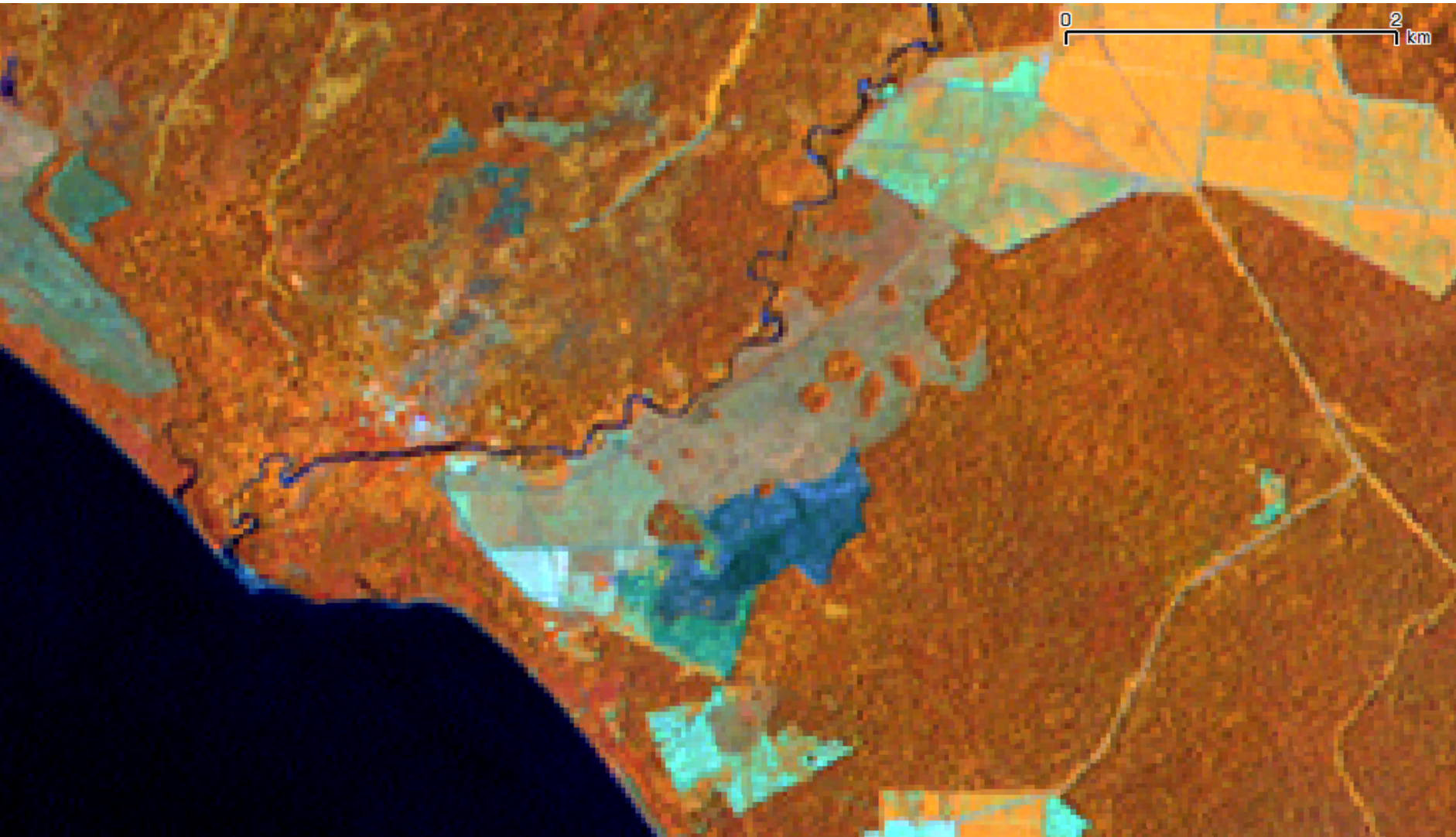
PAPUA NEW GUINEA NATIONAL FOREST MONITORING WEB-PORTAL:

LANDSAT 1990

LANDSAT 2000

LAND USE ASSESSMENT 1990

Legend:
- non_forest
- degraded_forest
- reforestation
- deforestation
- degradation
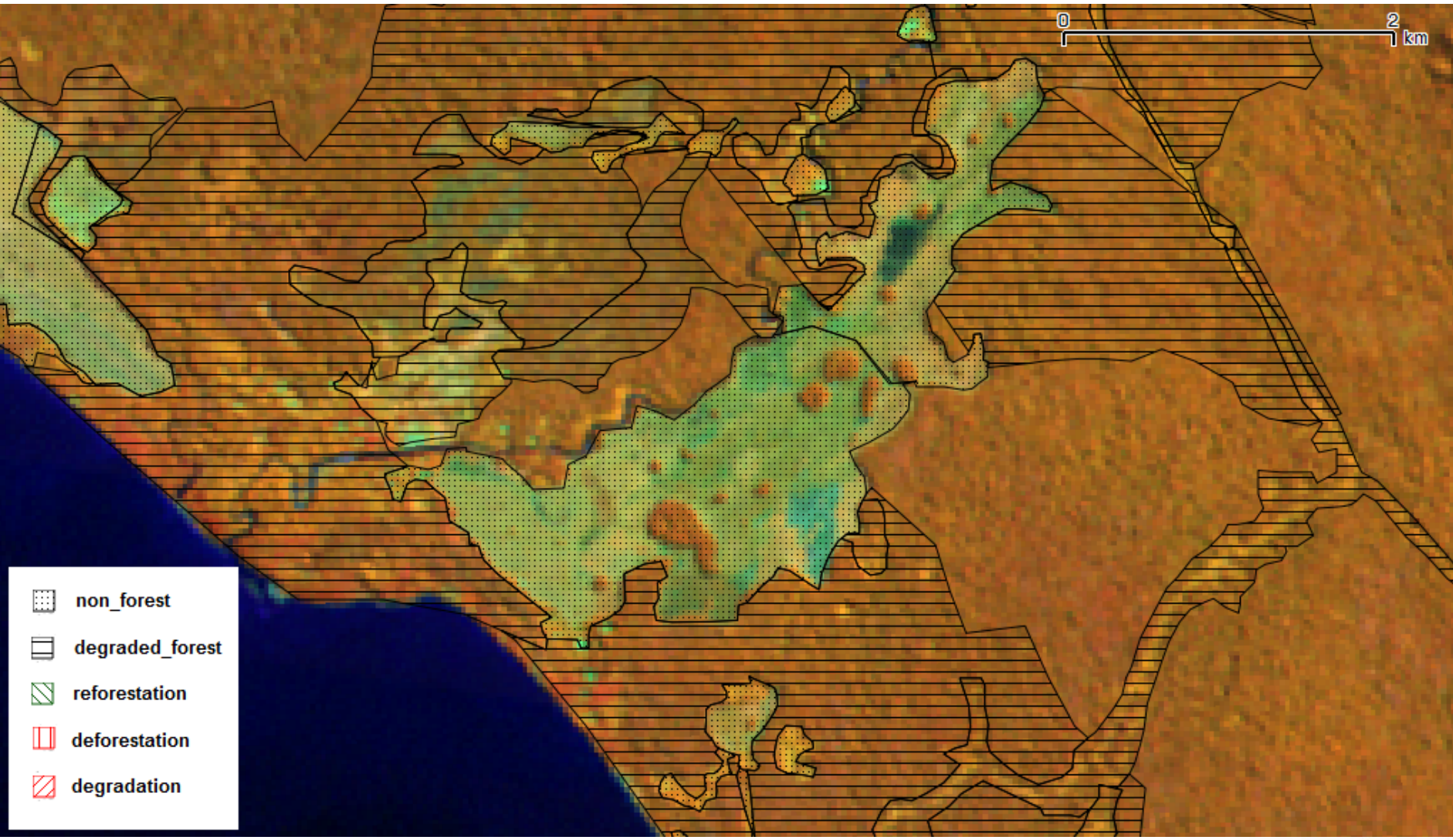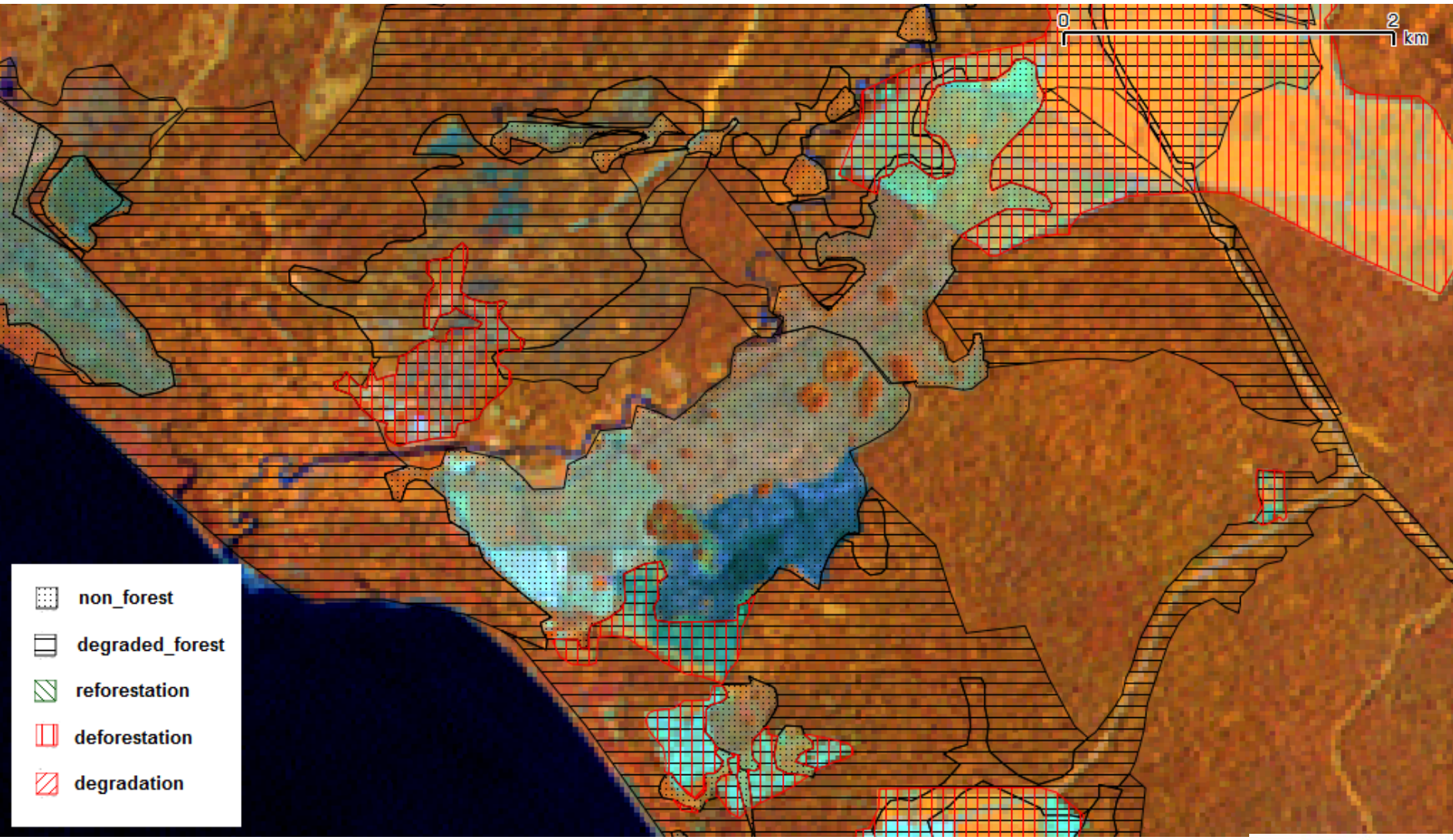
LAND USE ASSESSMENT 2000

Legend:
- non_forest
- degraded_forest
- reforestation
- deforestation
- degradation

PAPUA NEW GUINEA NATIONAL FOREST MONITORING PORTAL:

Source of Data
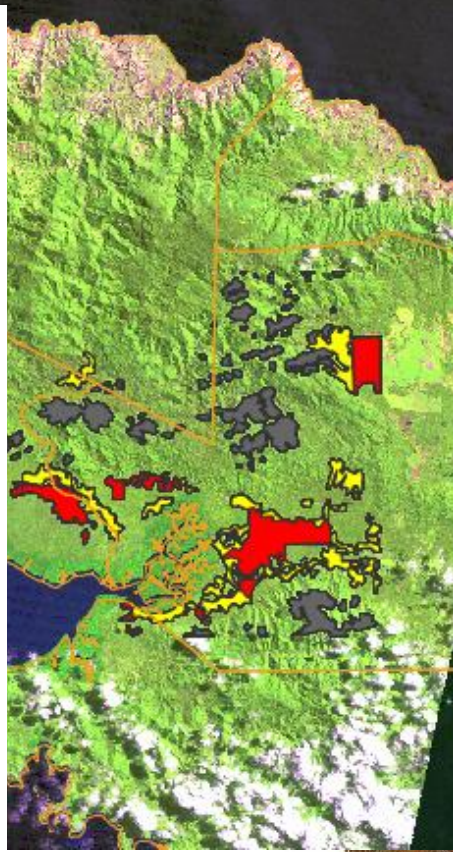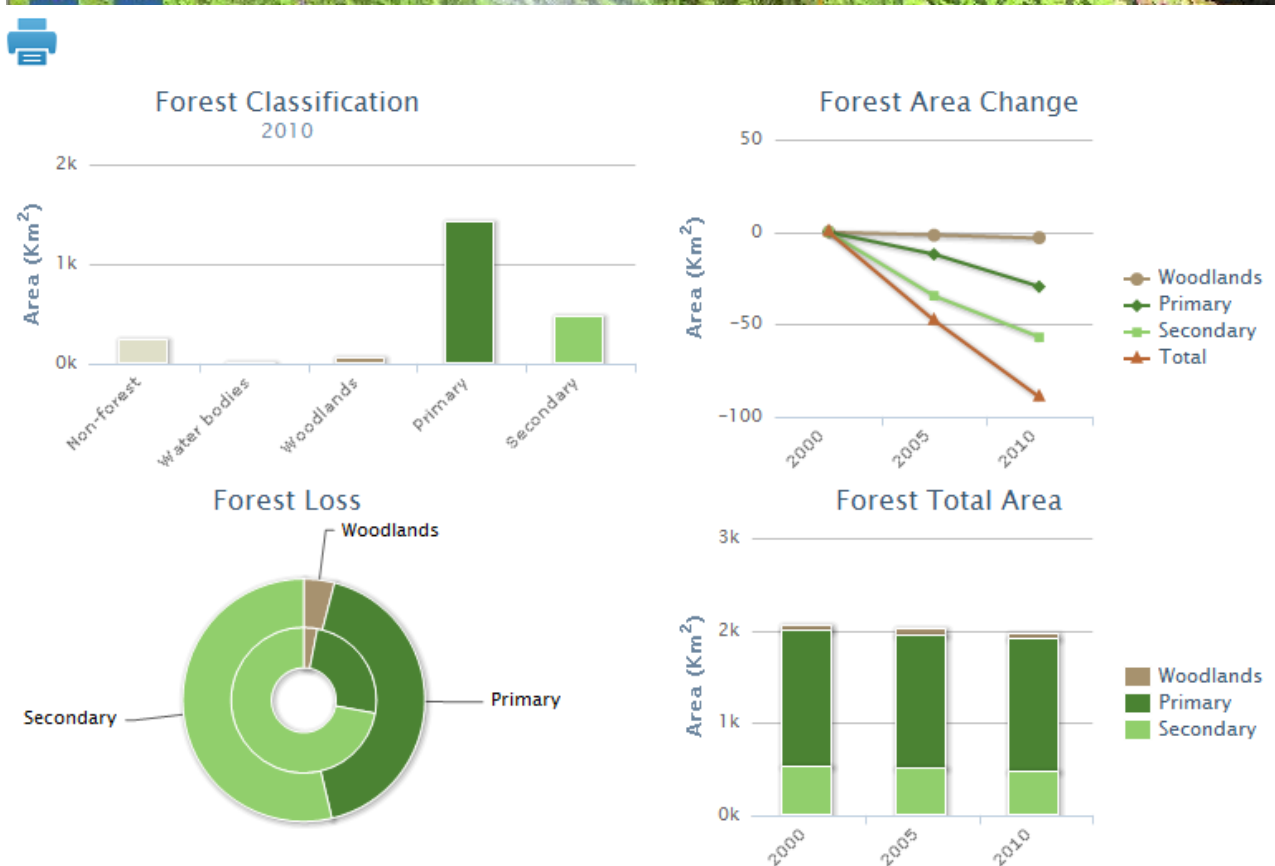
1 PNG UN-REDD Programme is providing capacity building and will support hardware and software

**2** Much of the historical data have and will be provided through the key stakeholders

i. UPNG – Capacity building
ii. PNGFA- Forest basemap, NFI
iii. DAL – Soil and landuse
iv. DEC – Conservation and biodiversity
v. UNITECH – Capacity building
vi. MRA – Mining area

3 Will also be supported through the current projects like PNGFA/JICA project, EU/FAO/PNGFA, AusAid, etc

Way Forward

Working on the NFMS Action Plan

Now

Capacity building on NFI pre-assessment tool

Full implementation

2014
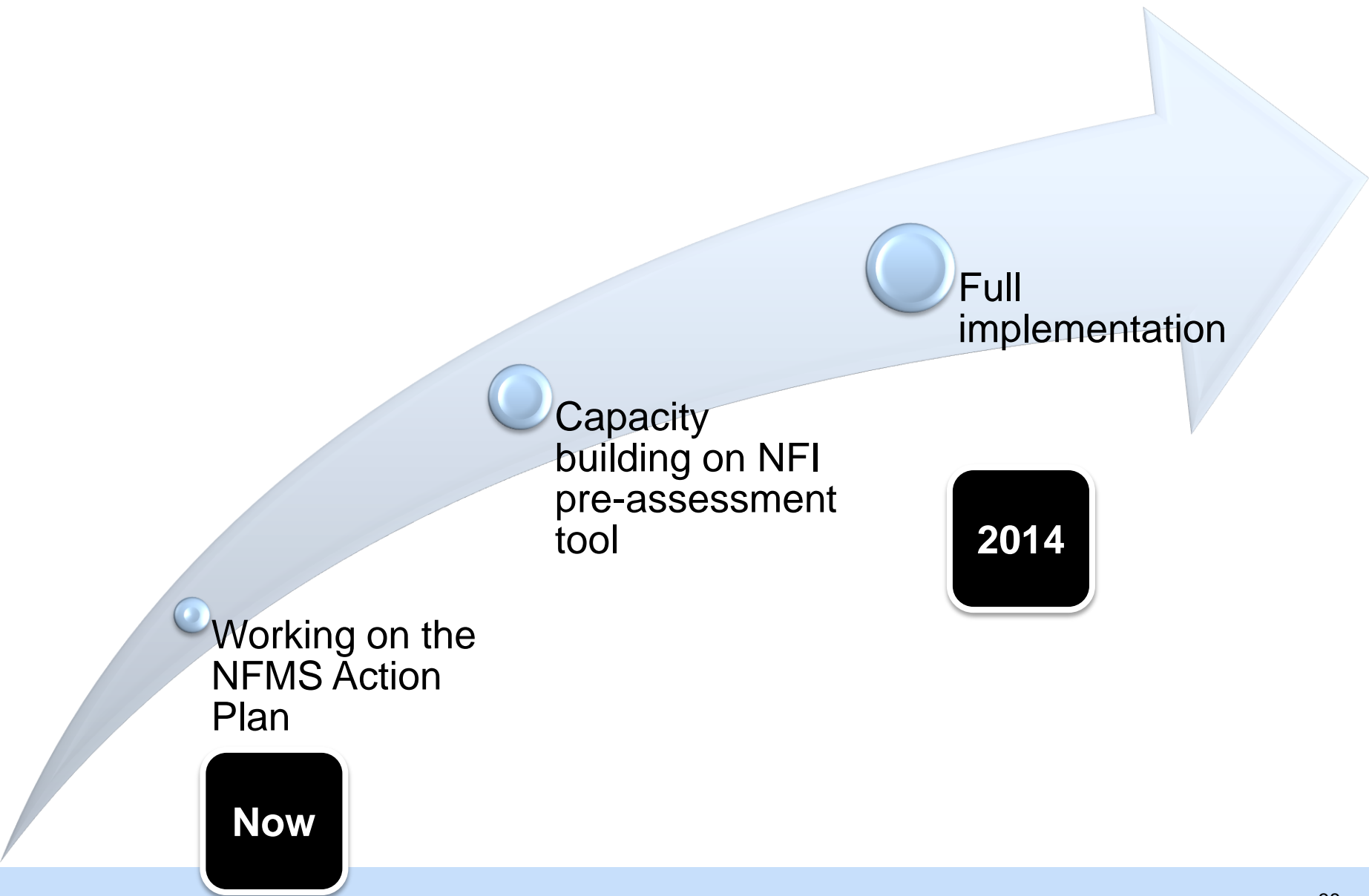
Summary

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!

Thank you

Questions?

Contact

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