



Challenges & Opportunities: Cardamom Mountains

**Toby Eastoe,
Site Manager**

for:

**Asia Parks
Congress
Sendai, Japan**

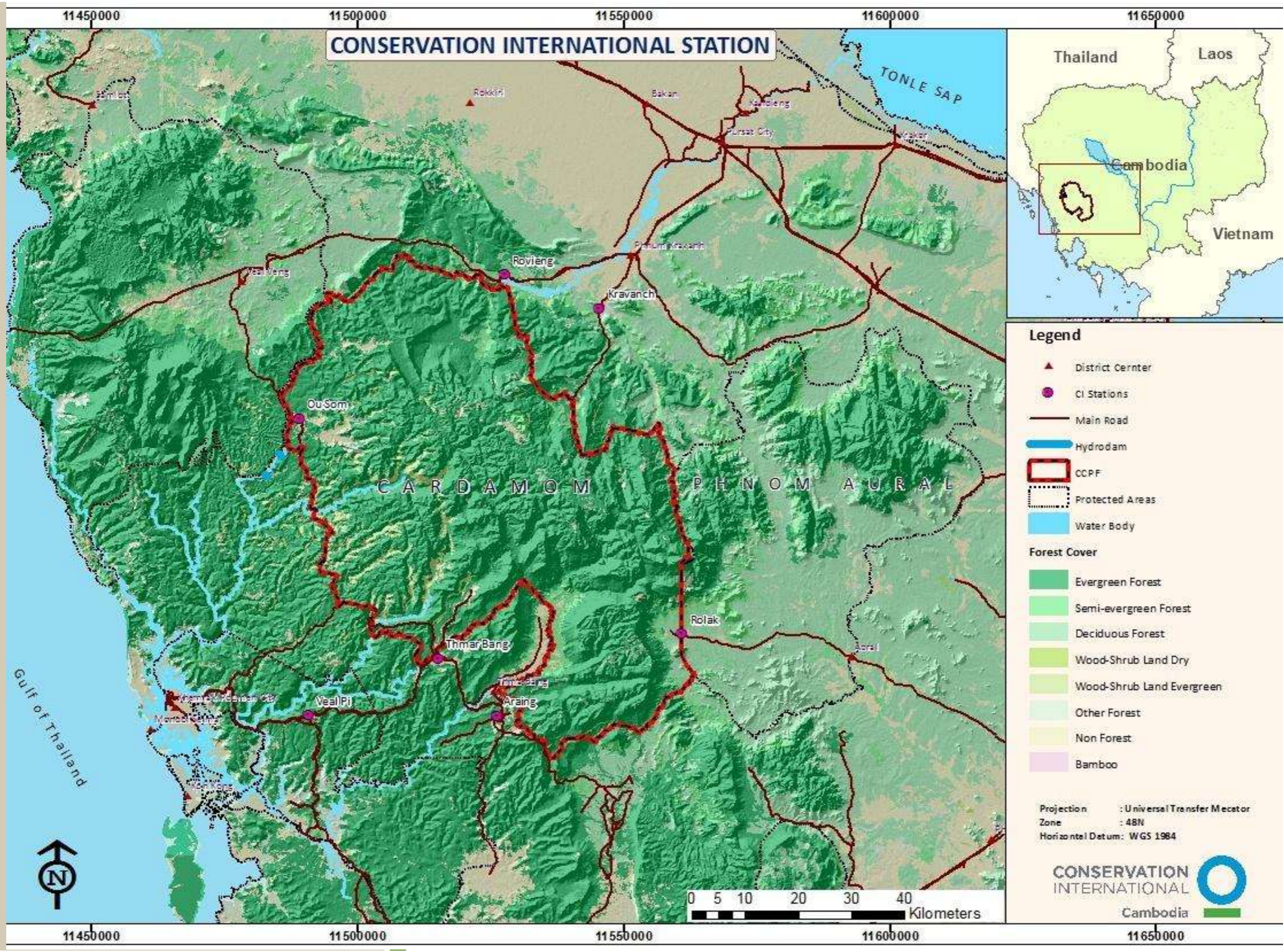
**CONSERVATION
INTERNATIONAL**





Central Cardamoms Protected Forest

- Designated in 2002 with assistance from CI
- 400,000 hectare core of the Cardamom Mountain range
- Cardamoms project facilitates conservation in both the protected area and surrounding state forests as a buffer
- Primarily tropical evergreen forest on mountainous terrain with lowland dipterocarp forest on the lowlands

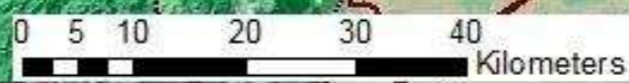


CONSERVATION INTERNATIONAL STATION

Legend

- ▲ District Center
 - CI Stations
 - Main Road
 - Hydrodam
 - ▭ CCPP
 - ⋯ Protected Areas
 - Water Body
- Forest Cover**
- Evergreen Forest
 - Semi-evergreen Forest
 - Deciduous Forest
 - Wood-Shrub Land Dry
 - Wood-Shrub Land Evergreen
 - Other Forest
 - Non Forest
 - Bamboo

Projection : Universal Transfer Mercator
 Zone : 48N
 Horizontal Datum : WGS 1984



Gulf of Thailand



11450000 11500000 11550000 11600000 11650000

11450000 11500000 11550000 11600000 11650000





Biodiversity Value

Siamese Crocodiles – Critically Endangered –
Largest breeding population



Asian Elephant – Endangered – largest
population in Cambodia



Rosewood – Recently upgraded to CITES App 2

Taxa	N° of Species	N° of Globally Threatened Species (IUCN Red List)
Mammals	66	20
Birds	174	6
Reptiles	74	9
Amphibians	32	1
Fish	44	1

New species to science!!





Forest Communities

Indigenous forest communities before wars

Marginalized poorest communities moving from land disputes to areas “undeveloped”

Participatory Land use planning

Cardamom range was a stronghold of the KR

Communities have many sustainable forest use practices and understand conservation but land tenure is loose



Challenge: Poaching and Logging

Biggest threat has been logging of luxury timber species such as rosewood

Most poaching of wildlife caused by “Gateway” species

Pangolins and cats are targeted for traditional medicine and monkeys for medtesting

Logging is facilitated by large logging syndicates developing ways to smuggle timber out.

While logging and poaching are poverty driven they would not be a major problem without the syndicate



Challenge: Concessions

Commercial Forest Concessions - banned

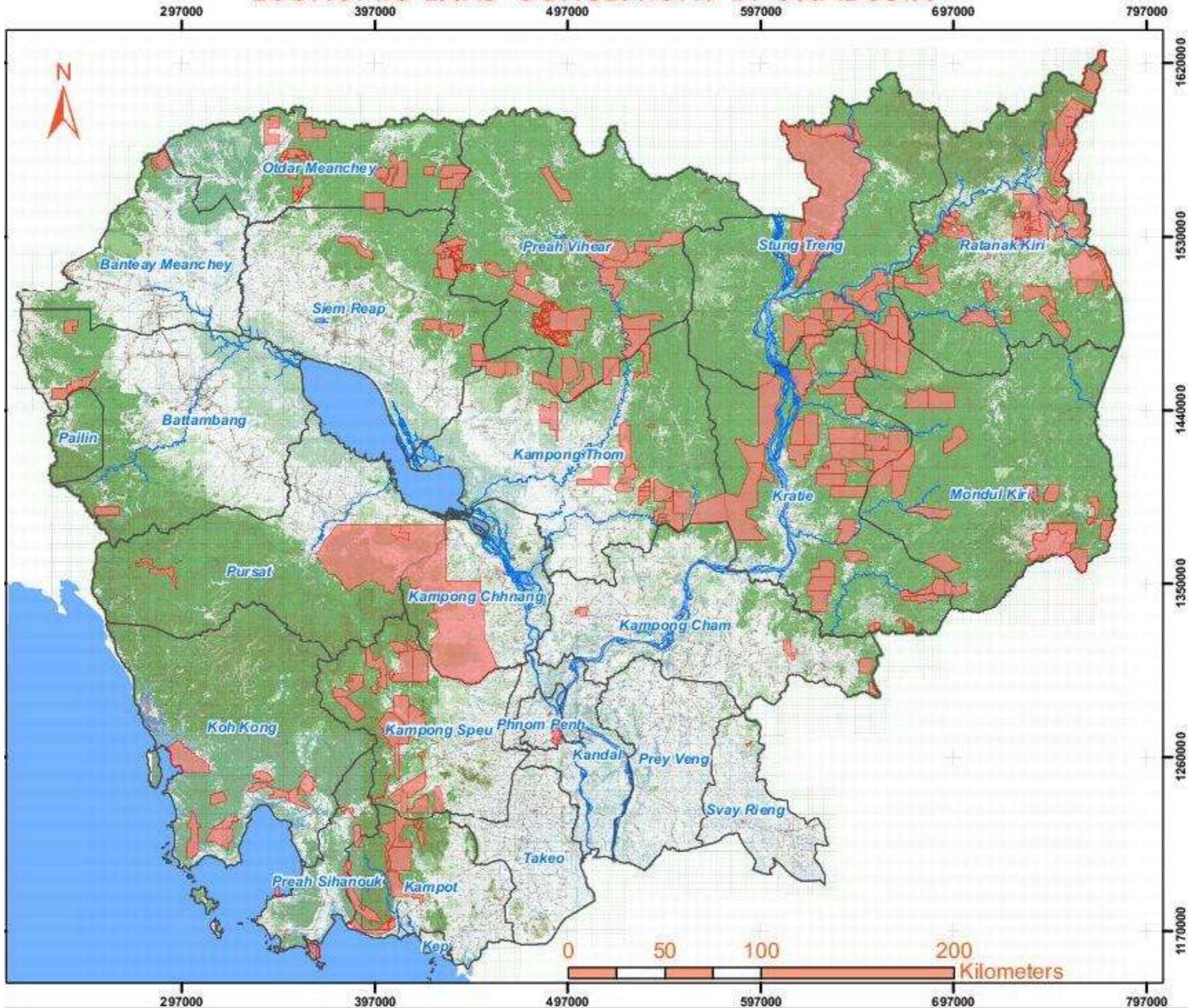
Cambodia's need for economic development brought about the Economic Land Concession (ELC)

ELC's given to large companies with 99 year leases

Initial logging of ELC's, including for hydropower dams deep in the forest is the only "legal" timber coming from Cambodia

ELC's can be used to launder luxury and other timber

ECONOMIC LAND CONCESSIONS IN CAMBODIA



Map Data Sources :
- Topographical Map 1:100,000
- Base Map 2011

ELC Data Sources :
- Gazette (Sub Decree)
- MAFF Website
- Other Contract

Paper size : A4 Land Landscape
Projection UTM
Datum WGS 1984
Zone 48N
Scale 1 : 2,700,000

Legend

- ELC Government Data Complete (22)
- Provinces
- River

Updated : 22 March 2013



Challenge: Land Titling

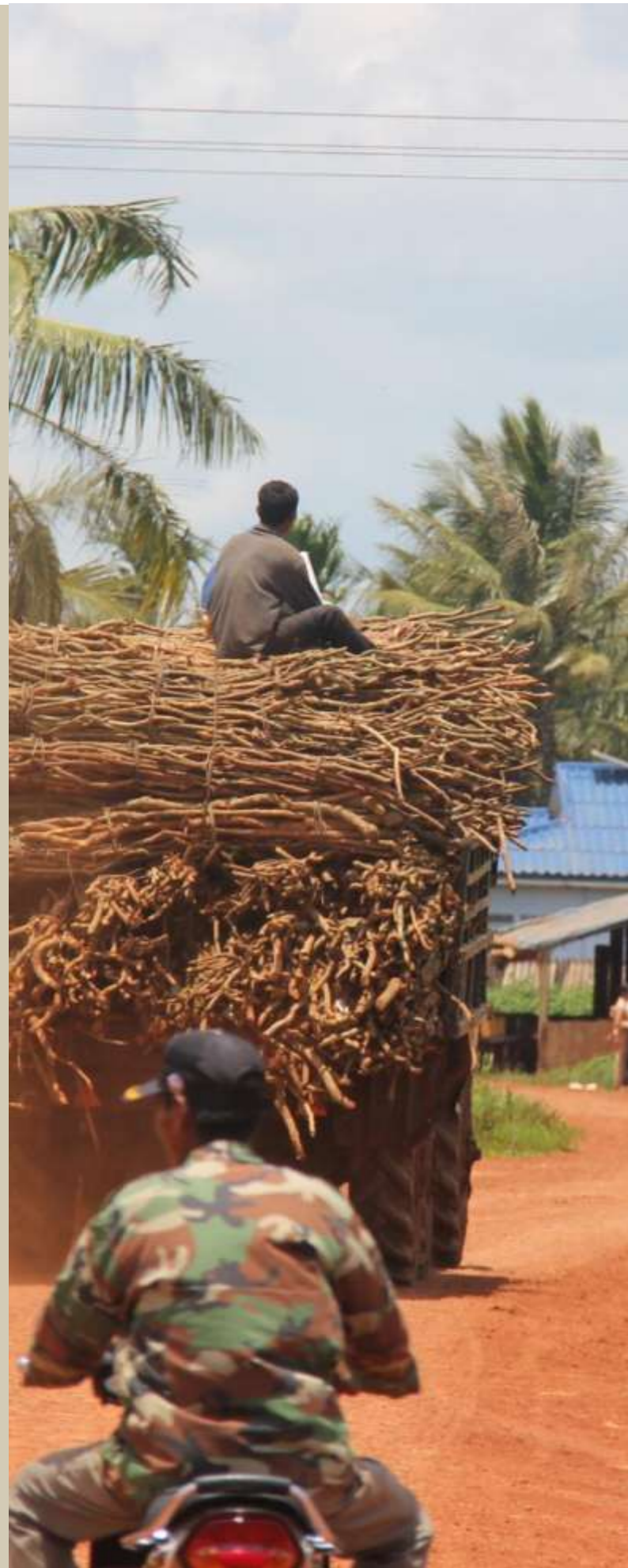
Land disputes with ELC's resulted in decreased votes

Ruling party announced it would give out land titles to poor landless people

People rapidly cleared protected forest in the hope they would get the land titled

Most titles were never finalized and scheme backfired

The scheme carried huge political weight so rangers could not police areas in dispute



Challenge: Political Will

Cambodia ranger salaries have remained at US\$30/month for last 10 years

If NGO's do not support and monitor then corruption* takes over

Logging syndicates usually have full protection from the law.

Law is written well but not well enforced

Donors wont supplement government salaries as a disincentive but if rangers are not supported then they will be forced into corruption

*Transparency International ranks Cambodia's transparency at 157th out of 176 countries and a score of 22/100



CI Support

Law Enforcement: rangers, operations, infrastructure, equipment

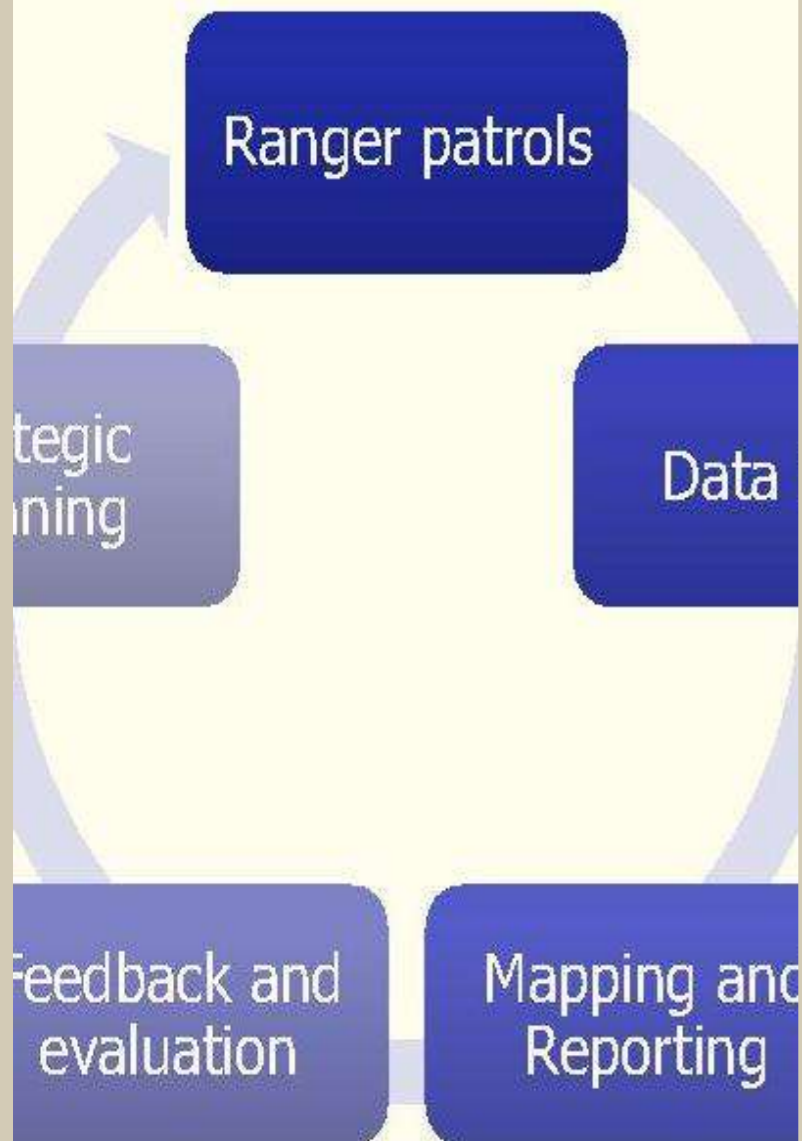
Community Engagement: conservation agreements and community wardens

Research: camera trapping, ecological monitoring > management

Sustainable Financing: PES, REDD, Trust Fund

Monitoring and Oversight: technical advice and assistance, capacity building, monitoring systems

Results-Based Management



Opportunity: Forest Monitoring Systems

SMART – Spatial Monitoring and Reporting Tool (replaces MIST software)

Crime Tracking System (CTS)

METT – Management Effectiveness Tracking Tool

Drones – Aerial photography series

Data collection systems, processes, training and oversight

If an integrated system is in place it is easy to react to threats and monitor change



SMART Ranger Patrol Book

Developed by Conservation International
and Fauna & Flora International

Patrol Checklist

GPS > Check battery > Save track >
Camera > check battery and L is on
Forestry Law
Court/ FA Procedure Sheets
Medical Kit
Torch
Pens
VHF Radio

Making Notes in the Patrol Book

WP# = GPS Waypoint number
G = Guideline for observations
Observations = note down everything
guideline

G2: Illegal Activity

Make GPS waypoint, note WP, note G2
note observations

Trading: Meat, Live animal, Carcass

Describe how much and what parts

Species

Logging: Logs, Planks, Stump, Slab, Firewood, charcoal

Describe lengths, m³ or number

Species

Clearing: Size of clearing

Transportation: # Moto, Truck, Ox-cart

Weapons: Home Made, AK47...

Equipment: Number Chainsaw, sawmill...

Camp: Old/ new any NTFPs

ACTION TAKEN: Confiscate, Destroy, Leave

G3: People

Make GPS waypoint, note WP, note
Note observations

Name

ID Number

Village (Living address)

Ethnicity

Number people

Age

Phone Number

Sex

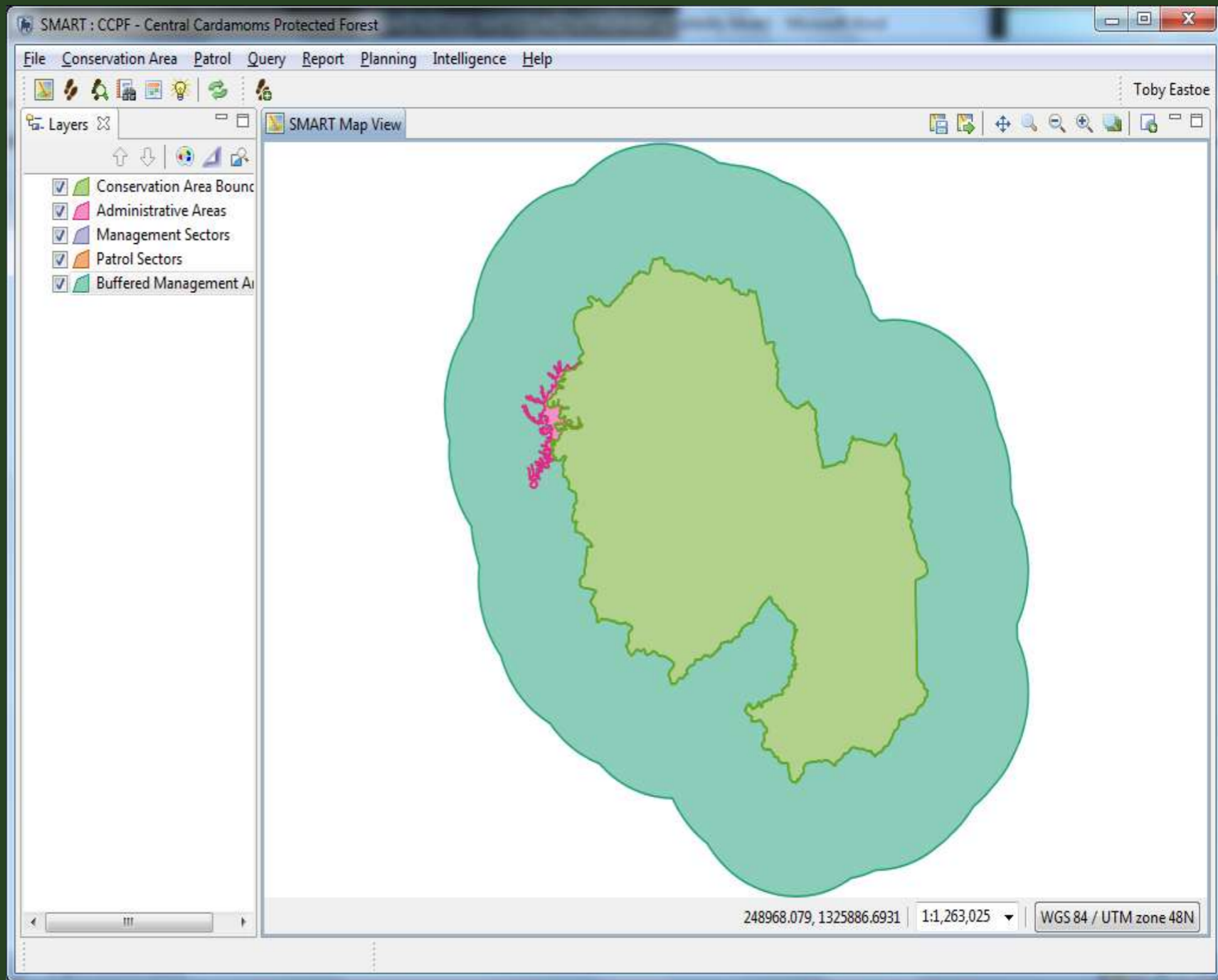
Checkpost : Vehicle details

**ACTION TAKEN: Arrest, Written W
Verbal warning, Released**

#	G	Observations

WP#	G	Observation

SMART



Drones





Opportunity: Conservation Agreements

Indigenous communities mobilized to abandon destructive forest uses

Conservation incentives – education, conservation employment, ecotourism and improvement of current agricultural lands

Agreements in 5 communes representing 3,500 individuals established since 2006

Community patrols complement government ranger patrols



Opportunity: Regional Links

Biggest threat is ELC companies which have regional and International links that can be informed of corporate and social responsibilities

National logging syndicates very hard to control but trade restrictions outside of Cambodia could have some success

Monitoring systems are used regionally and can be compared with other protected areas



Opportunity: Sustainable Financing

Trust Fund - Establish trust fund, capitalize at least 5 million dollars for it.

FA interested in capitalizing fund as it offers a long term solution

Help FA get ready to move away from NGO fundraising towards trust fund.

Successes

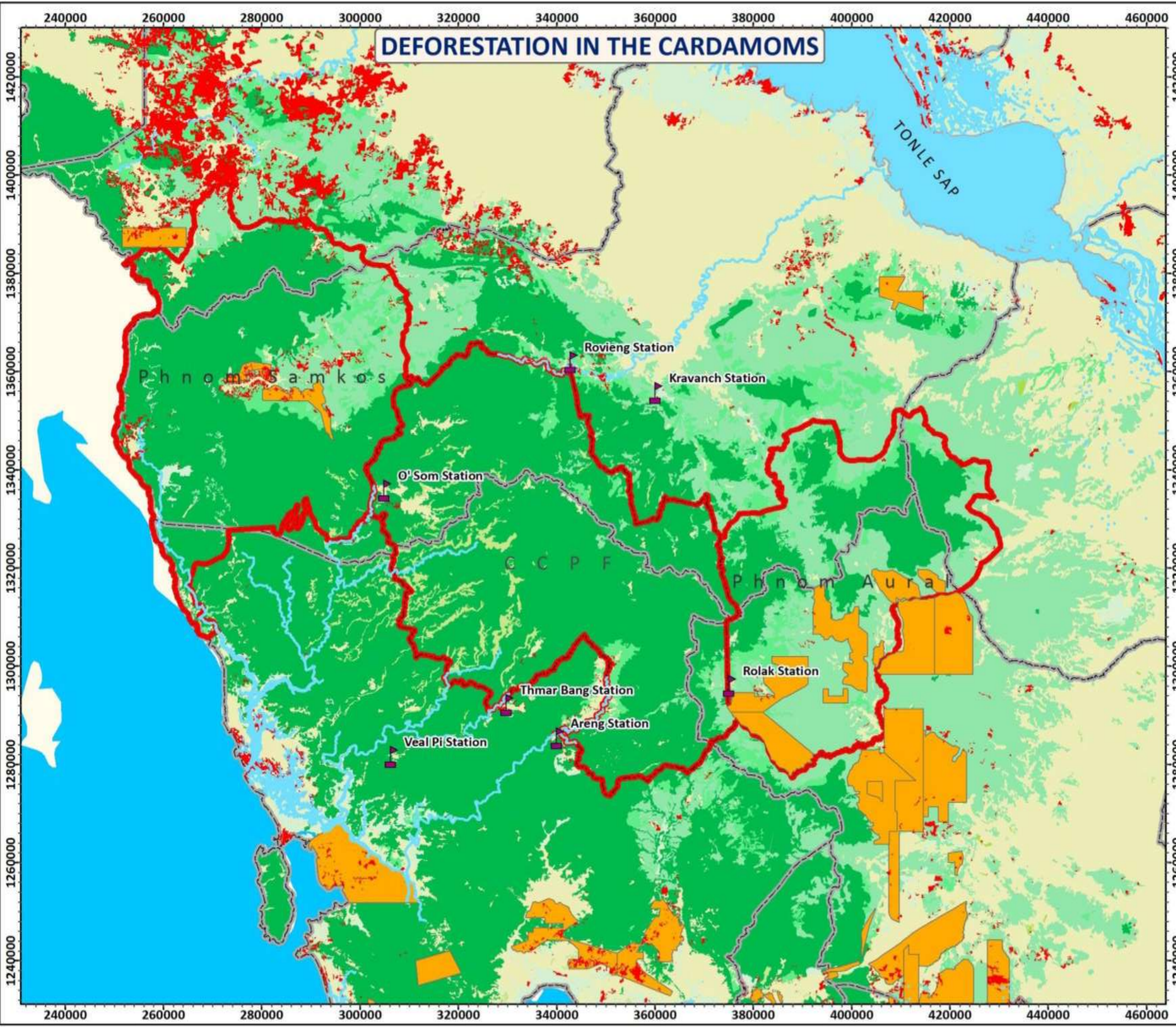
Enforcement: SMART and METT implemented

Jan 2012 – Jul 2013

1655 ranger patrols and 281 roadblocks. 128m³ timber, 11 pangolins, 14 turtles, 3800 snares, 159 chainsaws, 12 guns, 29 ox-carts and 16 vehicles confiscated. Wildlife poaching and trading decreased, no crocodile, elephant or dragon fish poached.

Communities: New agreements signed in September 2013. Have been adapted to the recent boundary determinations (land titles). Better collaboration between stakeholders





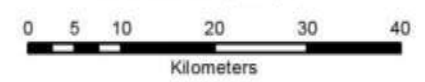
DEFORESTATION IN THE CARDAMOMS



- Legend**
- CI Stations
 - Deforestation (2006-2010)
 - Economic Land Concession
 - Protected Area
 - Water Body
- Forest Cover 2006**
- Evergreen Forest
 - Semi-evergreen Forest
 - Deciduous Forest
 - Wood-Shrub Land Dry
 - Wood-Shrub Land Evergreen
 - Other Forest
 - Non Forest
 - Bamboo



SCALE: 1:1,000,000



Projection.....Universal Transfer Mecator, Zone...48N
 Horizontal Datum.....WGS 1984
 Grid.....20000 Meters, Sub grid...2000 Meter
 Data Sources :
 + JICA: Road, Water Body
 + FA: Forest Cover 2006
 Forest Cover 2010 (Unofficial)
 Map Produced by: Conservation International 2013



Questions?



Photos by Jeremy Holden, FFI and Toby Eastoe, CI