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Land Tenure and Property Rights Issues in Natural Resource Management, Biodiversity Conservation and Climate Change

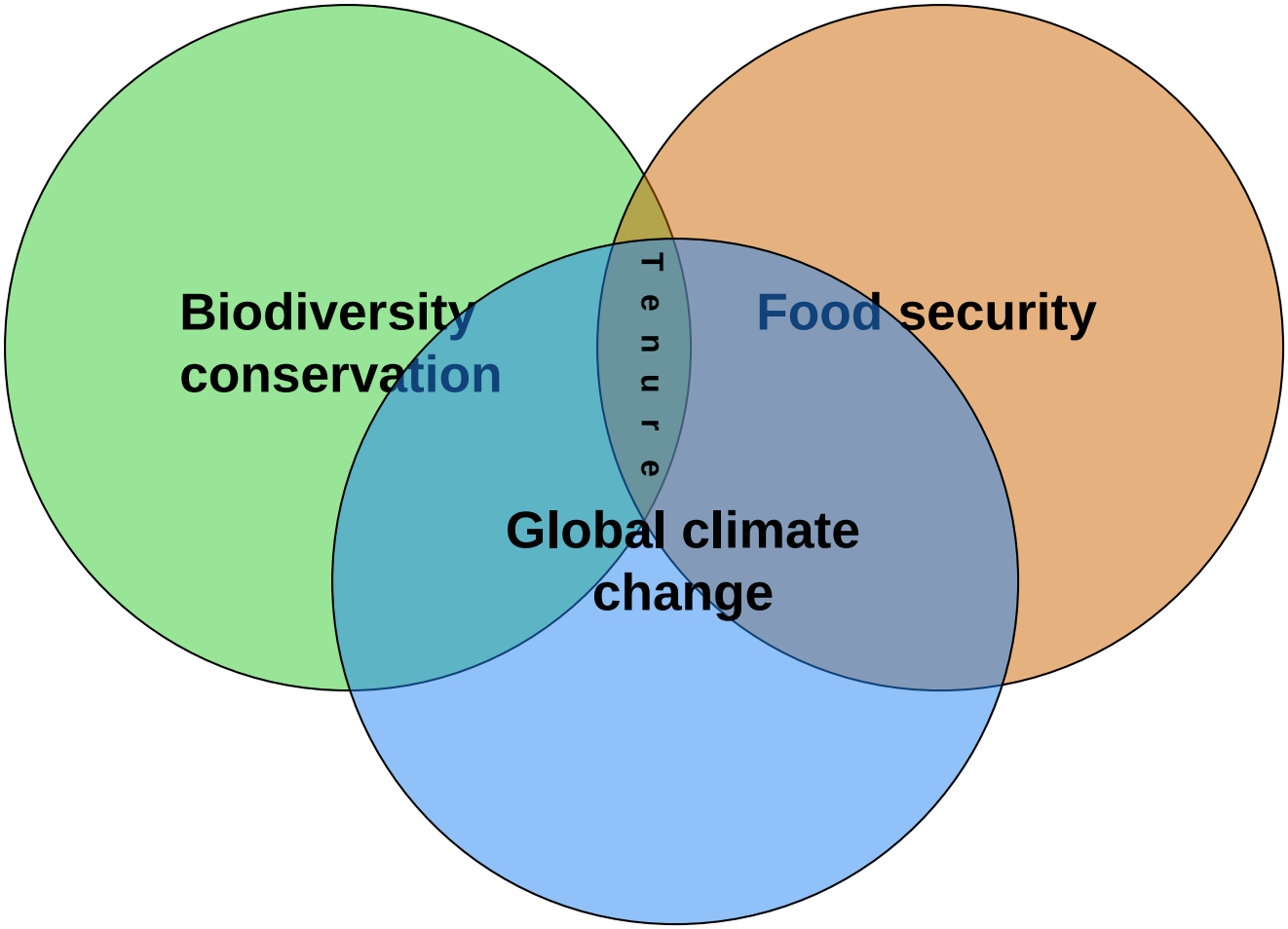
Presenter: Mark Freudenberger

Property Rights and Resource Governance

Issues and Best Practices

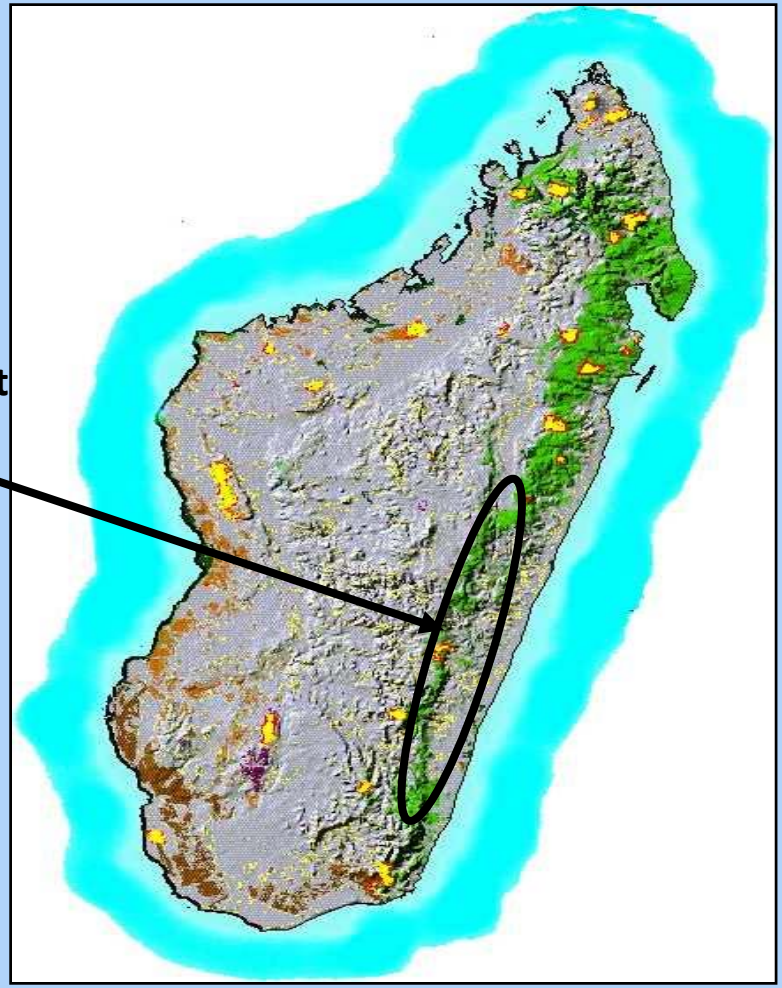
October, 2011

Policy Imperatives between biodiversity conservation, global climate change, and food security – Addressing the resource tenure and property rights interface

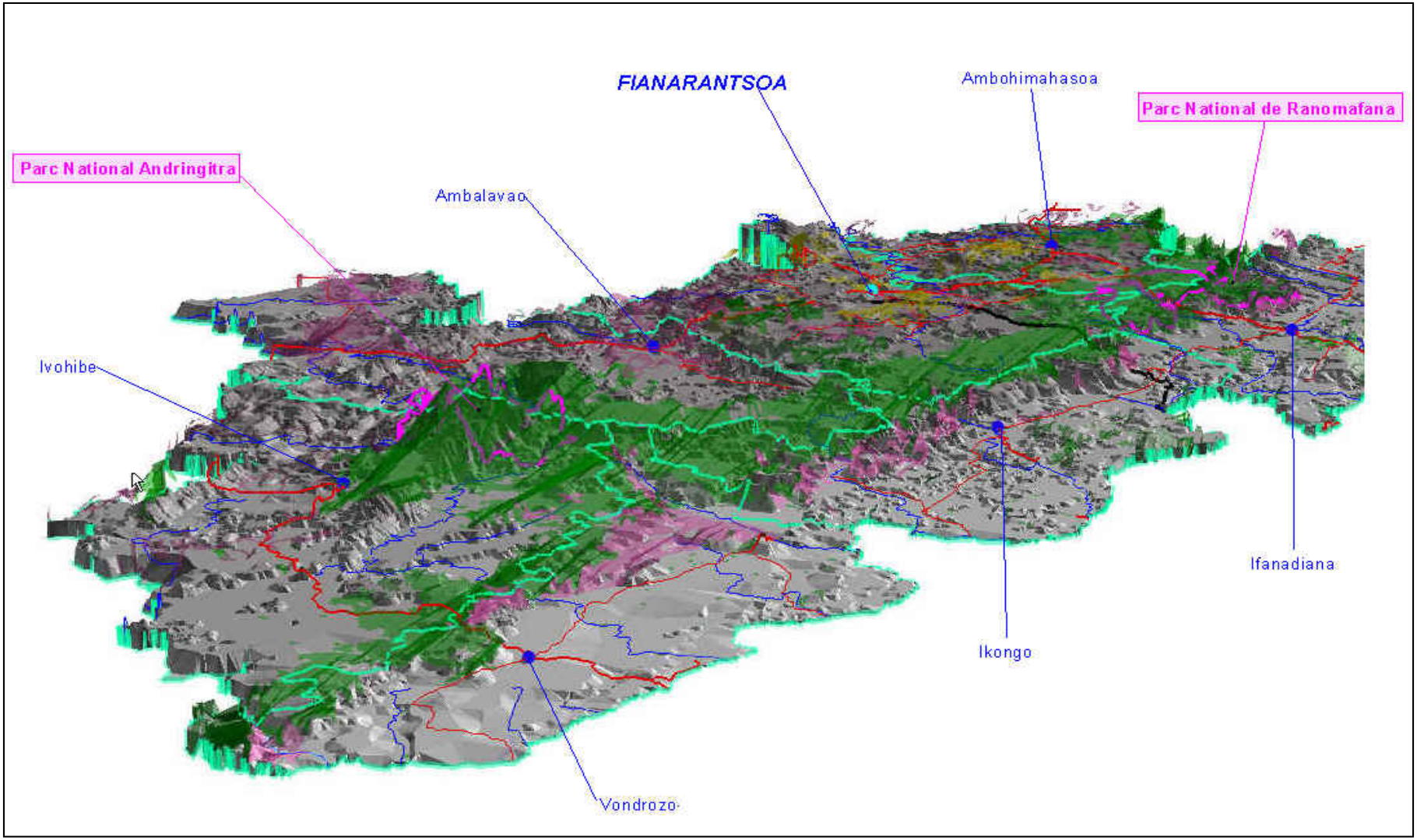


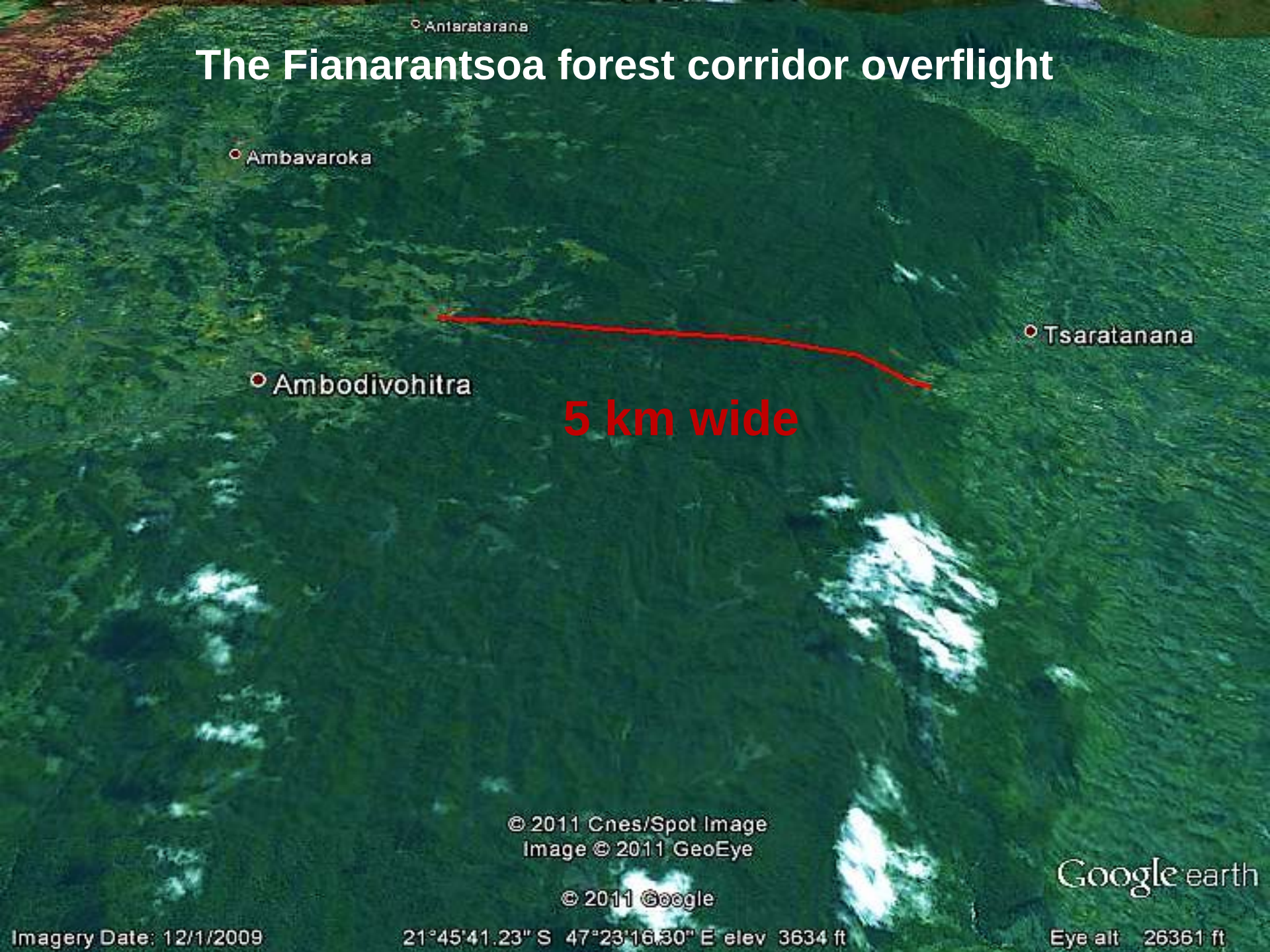
Observing tenure issues in the field: An overflight and hike along the Fandriana – Vondrozo forest corridor of Madagascar

Fandriana – Vondrozo forest corridor

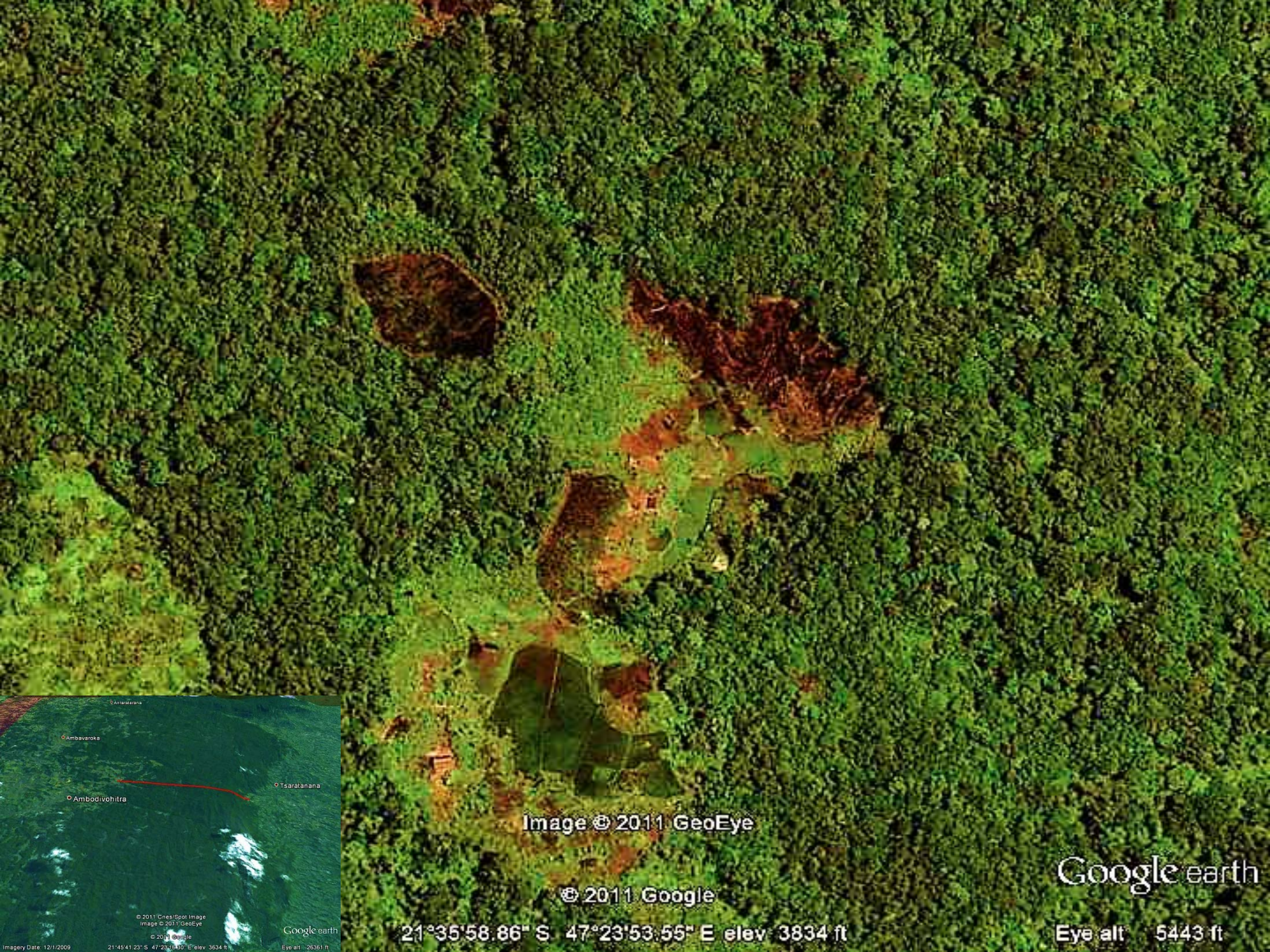


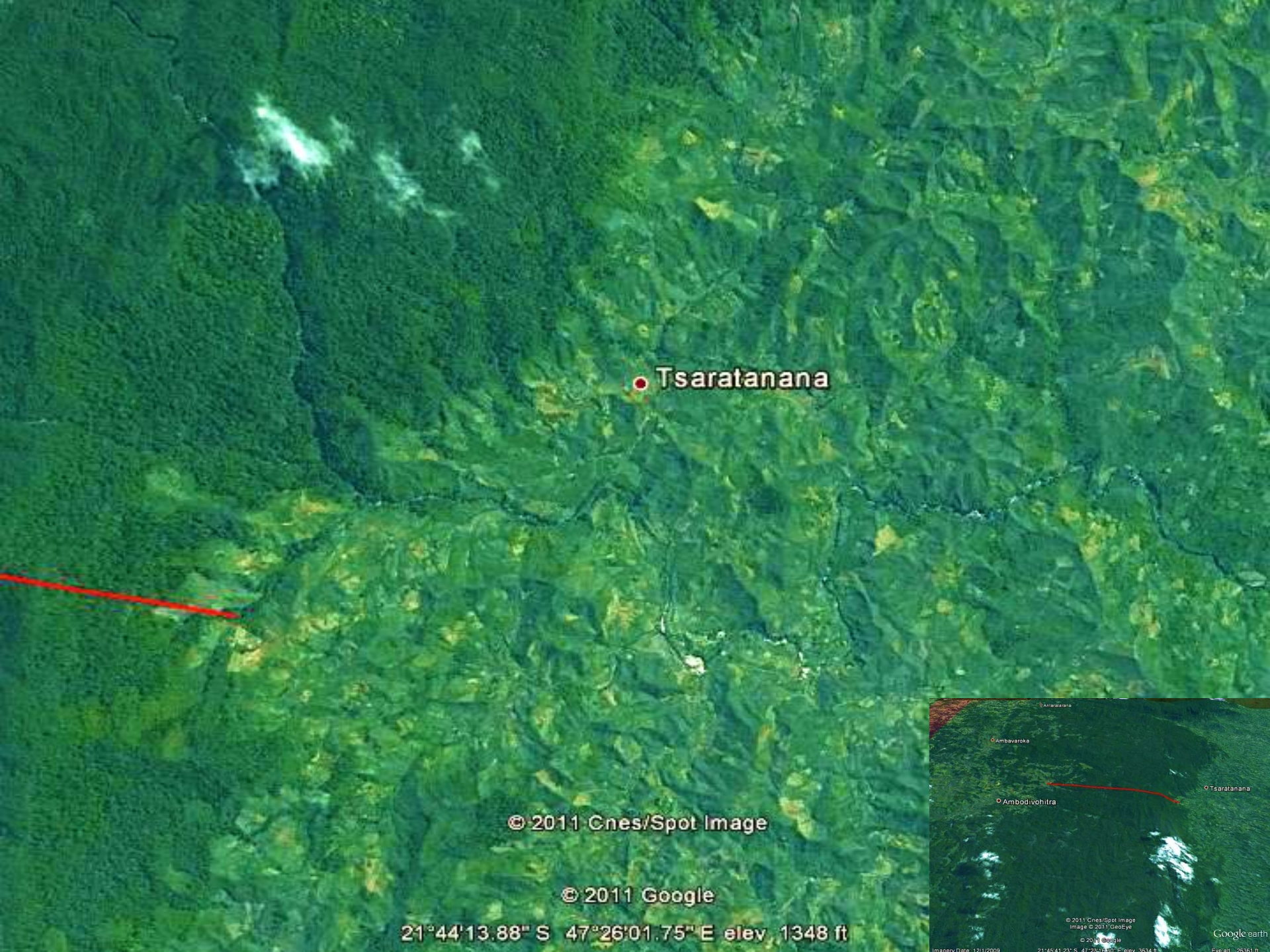
The Fianarantsoa Madagascar forest corridor




Antaratarana
The Fianarantsoa forest corridor overflight
Ambavaroka
Tsaratanana
Ambodivohitra
5 km wide
© 2011 Cnes/Spot Image
Image © 2011 GeoEye
© 2011 Google
Google earth
Imagery Date: 12/1/2009
21°45'41.23" S 47°23'16.30" E elev 3634 ft
Eye alt 26361 ft


Antaratarana
Ambavaroka
Tsaratanana
Ambodivohitra
© 2011 Cnes/Spot Image
© 2011 Google
21°43'45.51" S 47°21'53.43" E elev 3687 ft
Eye alt 13492 ft
Google earth
Imagery Date: 12/1/2009


Antaralarana
Ambavaroka
Tsaratanana
Ambodivohitra
© 2011 Cnes/Spot Image
Image © 2011 GeoEye
© 2011 Google
Google earth
Imagery Date: 12/1/2009
21°45'41.23" S 47°23'46.30" E elev 3634 ft
Eye alt 26361 ft
Image © 2011 GeoEye
© 2011 Google
Google earth
21°35'58.86" S 47°23'53.55" E elev 3834 ft
Eye alt 5443 ft


Tsaratanana
© 2011 Cnes/Spot Image
© 2011 Google
21°44'13.88" S 47°26'01.75" E elev 1348 ft
Antsalatsana
Ambavaroka
Tsaratanana
Ambodivohitra
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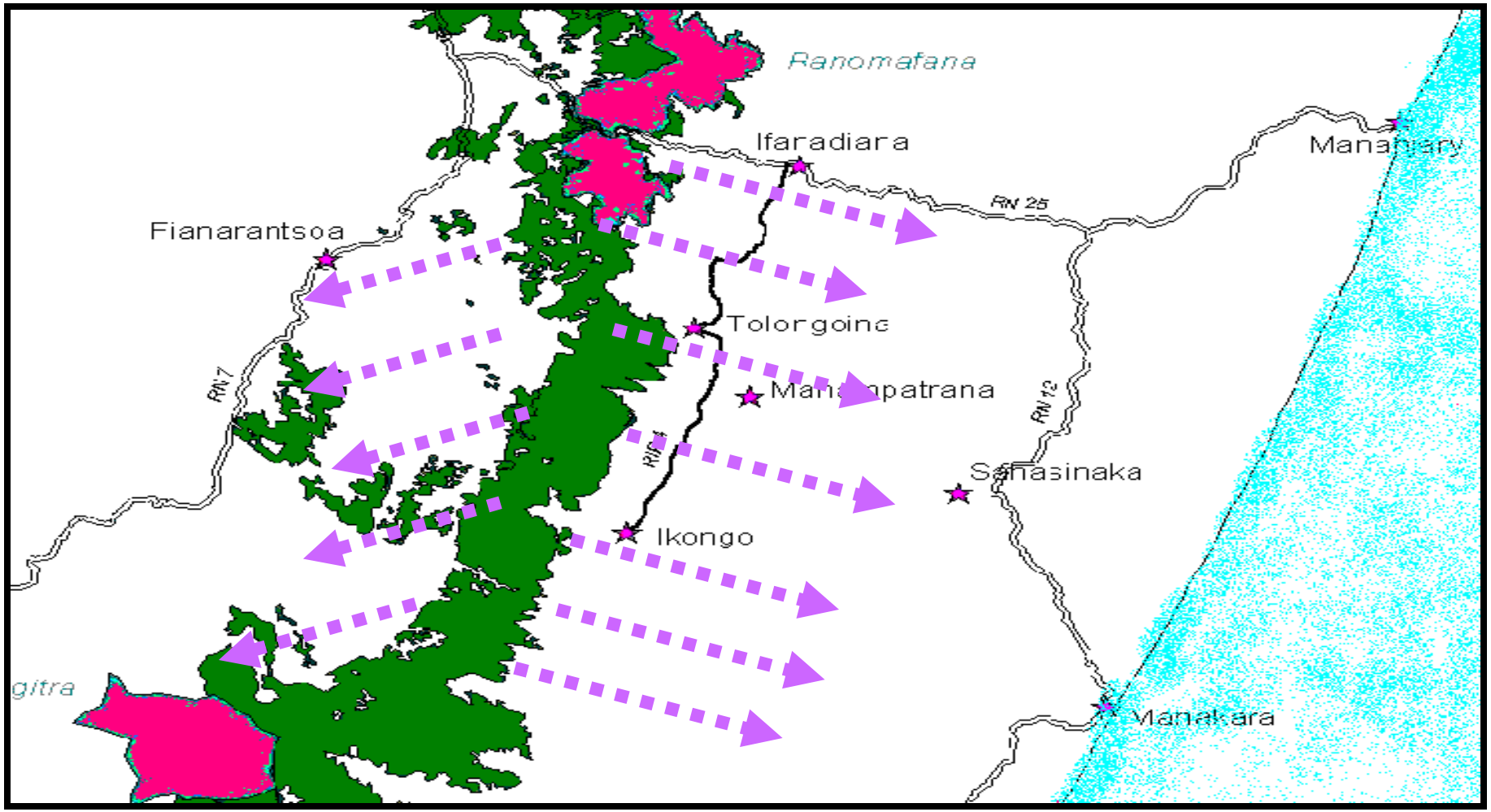
The Fianarantsoa forest corridor overflight

The forest corridor is the last vestige of a vast forest that at one time covered a large part of eastern Madagascar. It is now reduced to a narrow band 200 km long and 5-20 km wide. This forest corridor plays a vital part of the ecology and economy of the south eastern part of the country.

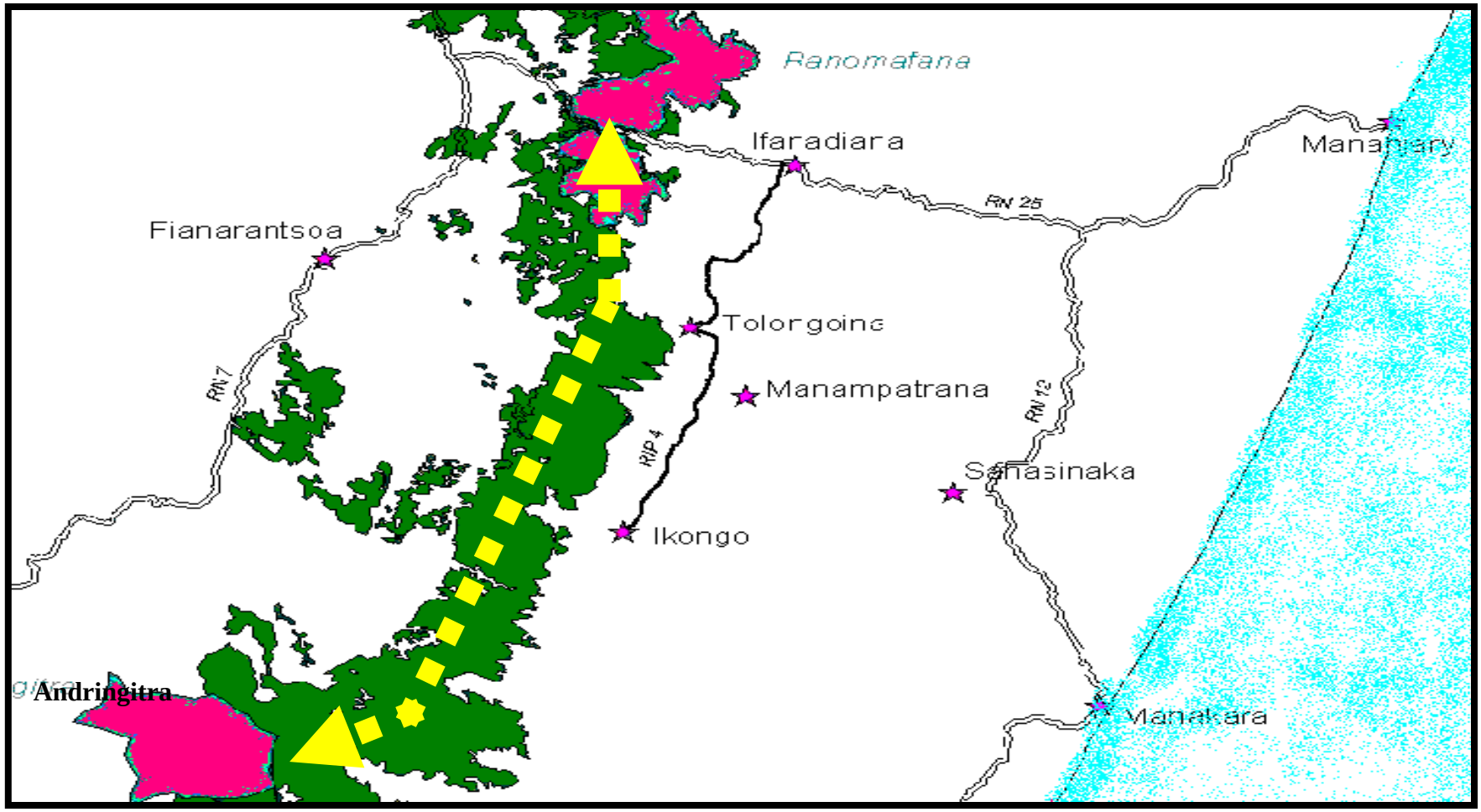
In the past this forest probably covered a large part of Madagascar and the province of Fianarantsoa…

… but today it is reduced to a small band 5- 20 km wide along an escarpment bordering high and low altitude gradients.

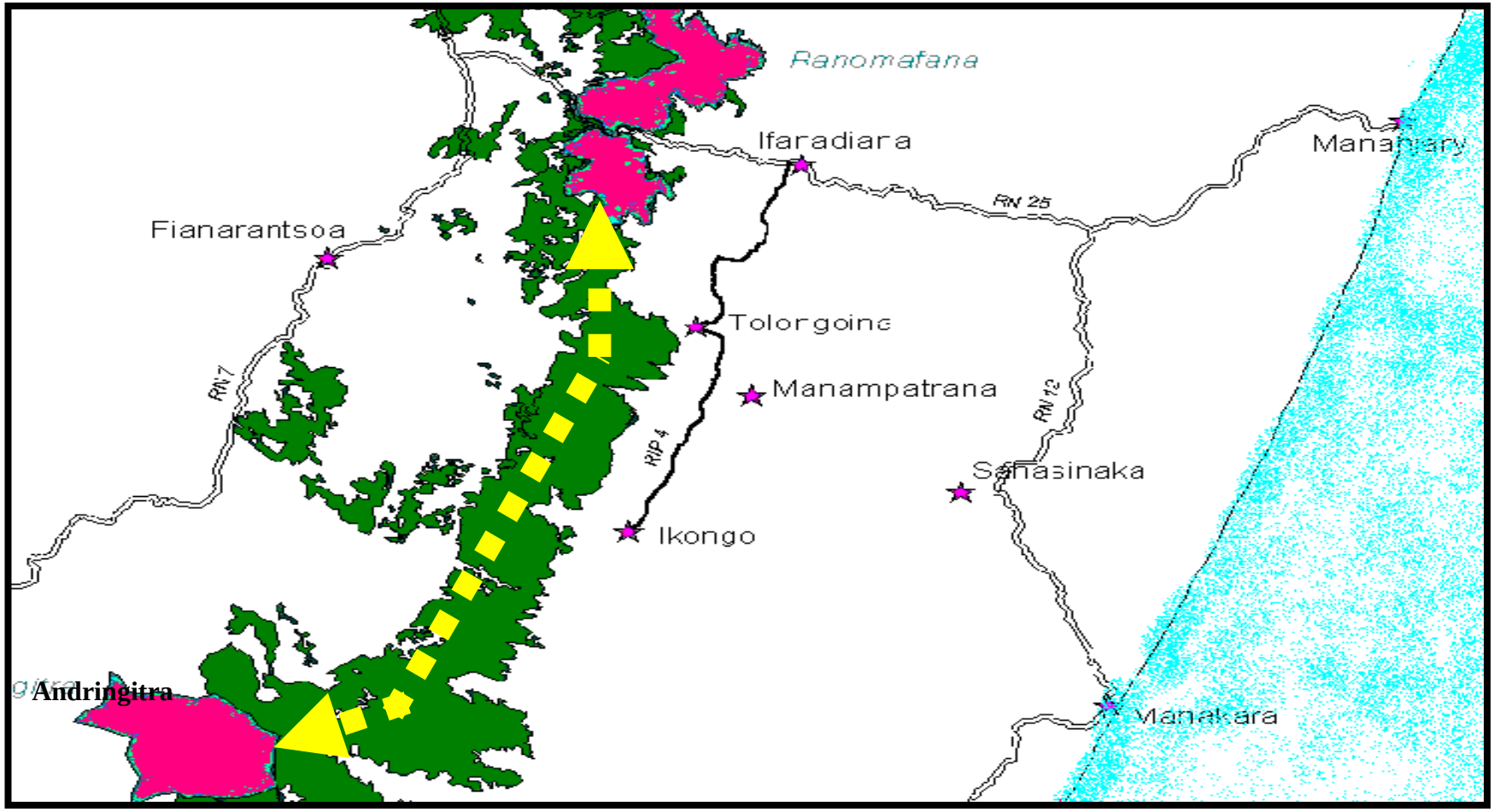
The forest corridor is the «water tower» of the province – a source of water for irrigated rice cultivation, urban water supplies, and hydroelectric power.



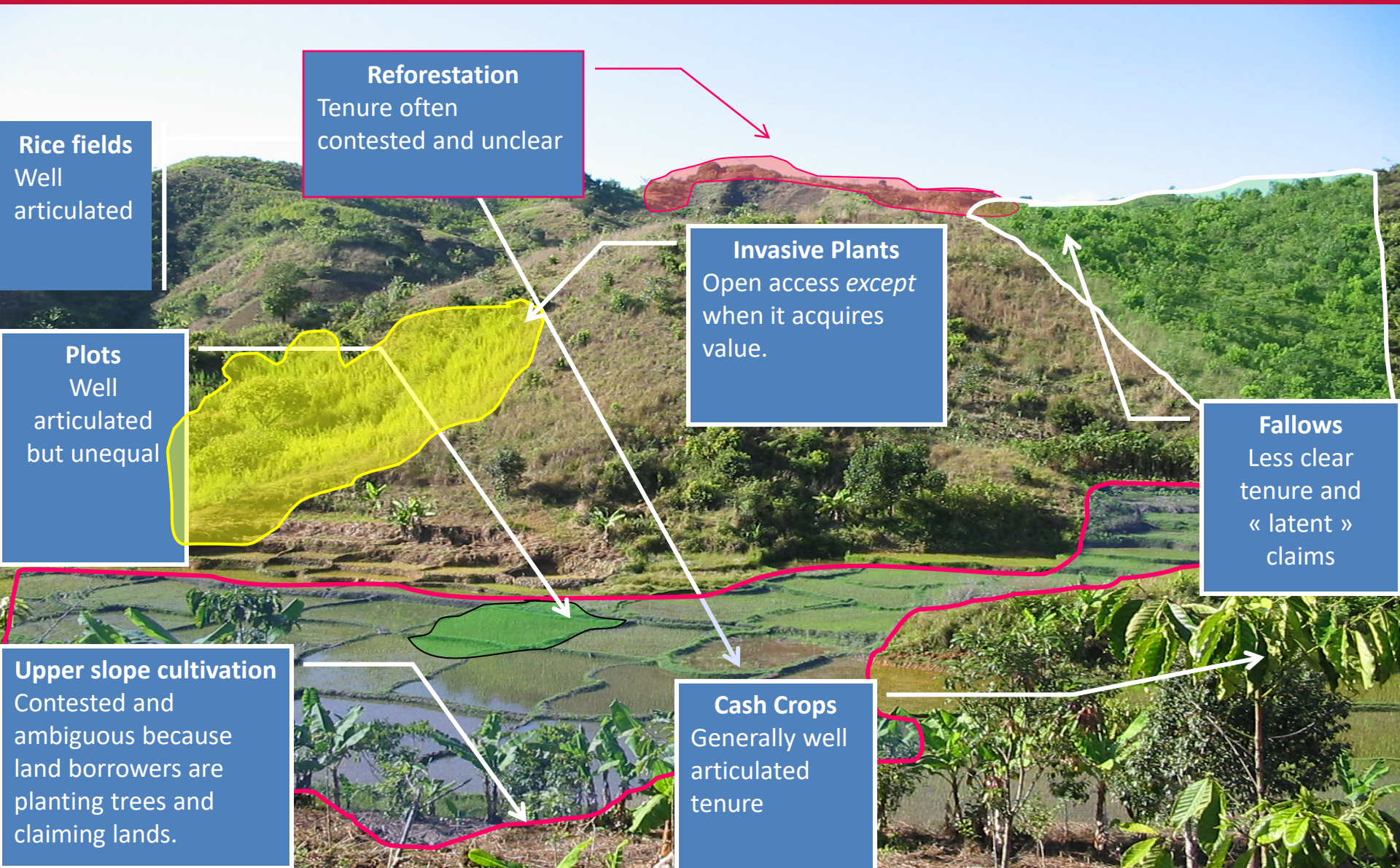
The forest corridor is a biological corridor that contributes to the maintenance of biodiversity between two national parks but that also contributes to ancillary economic activities.



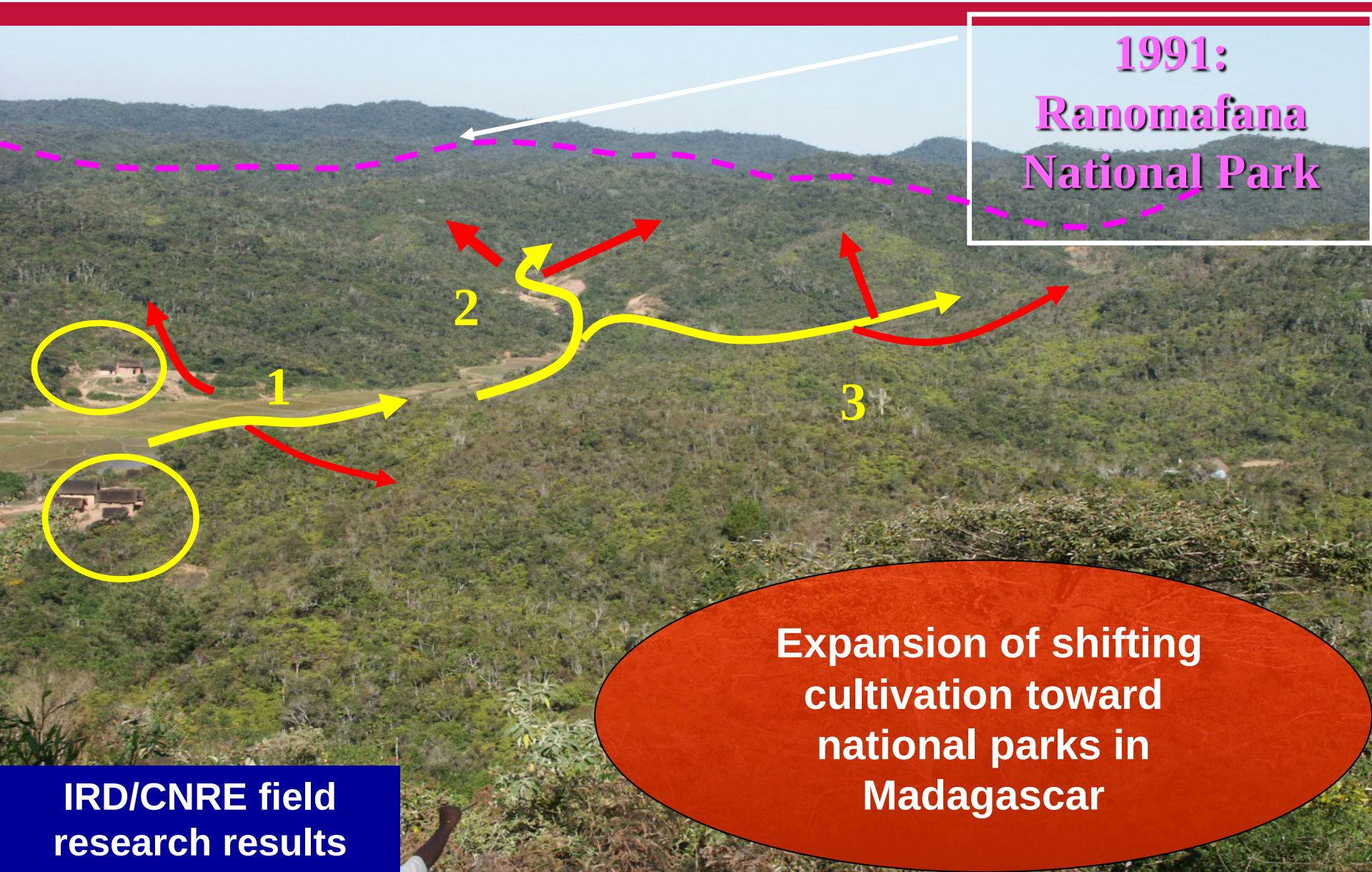
The forest corridor is a source of economic value – ecotourism, secondary forest products, hydroelectric power, mineral resources, bioprospecting, ecoagriculture, carbon sink and source of payments for avoided deforestation…



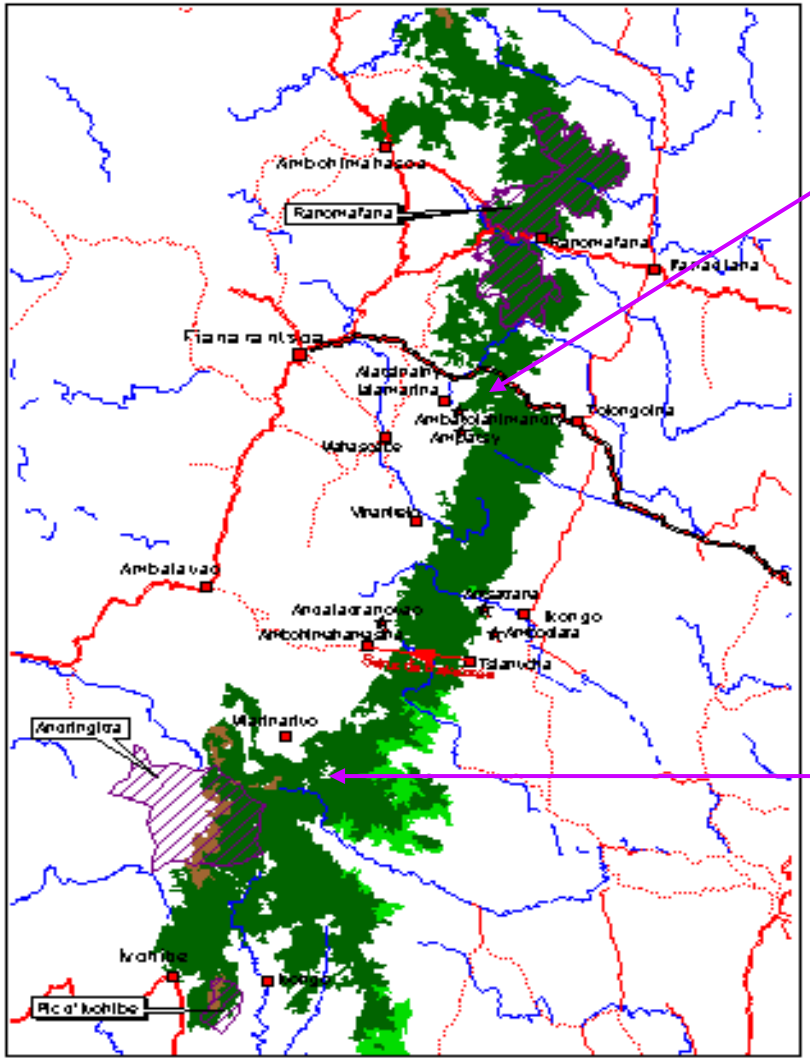
Ecological niches = Tenure niches



Causes of forest conversion



Small-scale artisanal mining



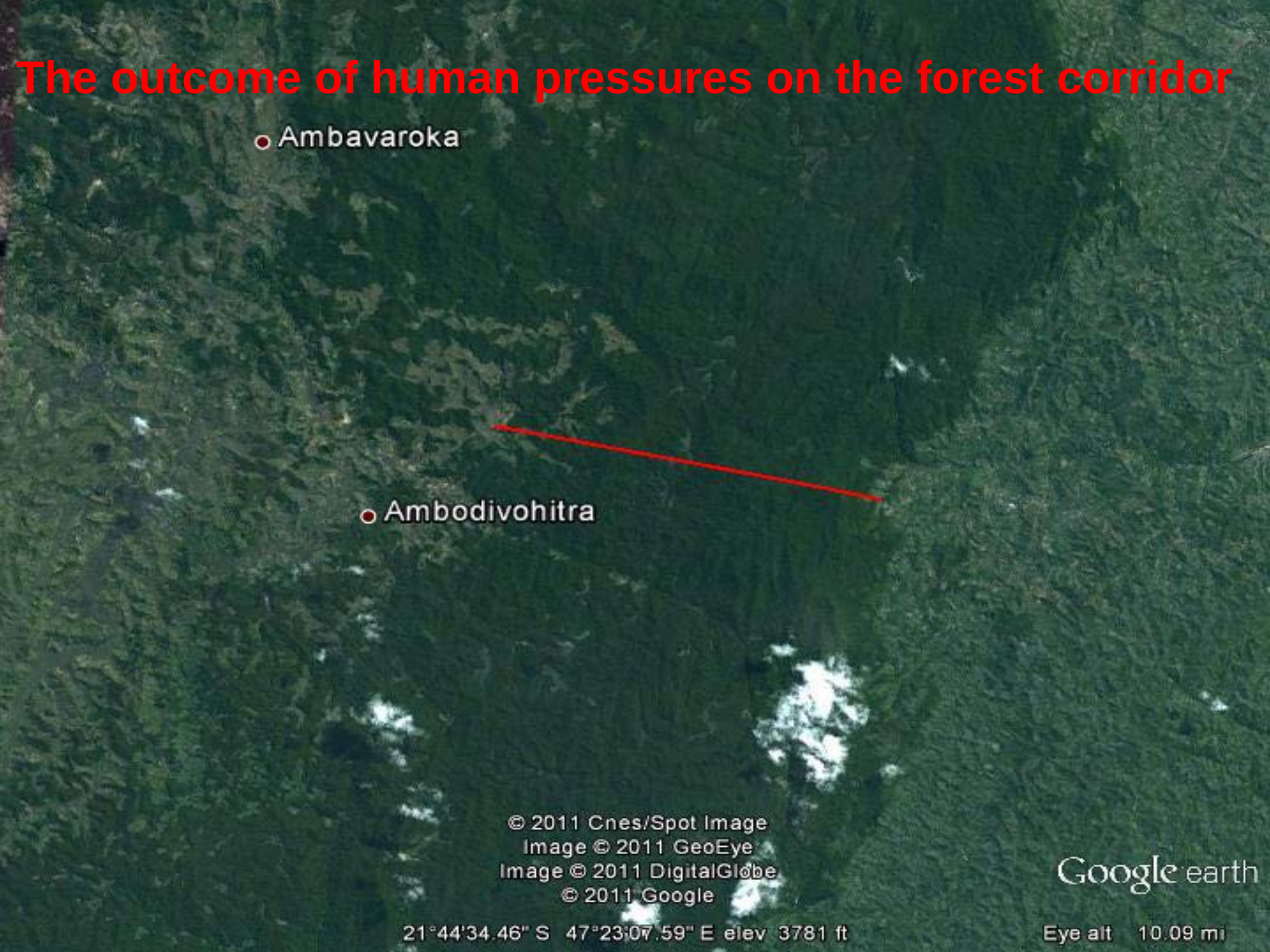
The forest corridor is well known for the presence of gold, quartz, corundum, emeralds, and other semi-precious stones. Ecological impacts of mining are scattered throughout these forests.

Corandum mining in the forest corridor

Corundum (family of sapphires and rubies)

- **Very hard aluminum oxide mineral**
- **Used for sharpening stones, sand paper, and other industrial purposes**
- **Strong market attractive to artisanal miners**

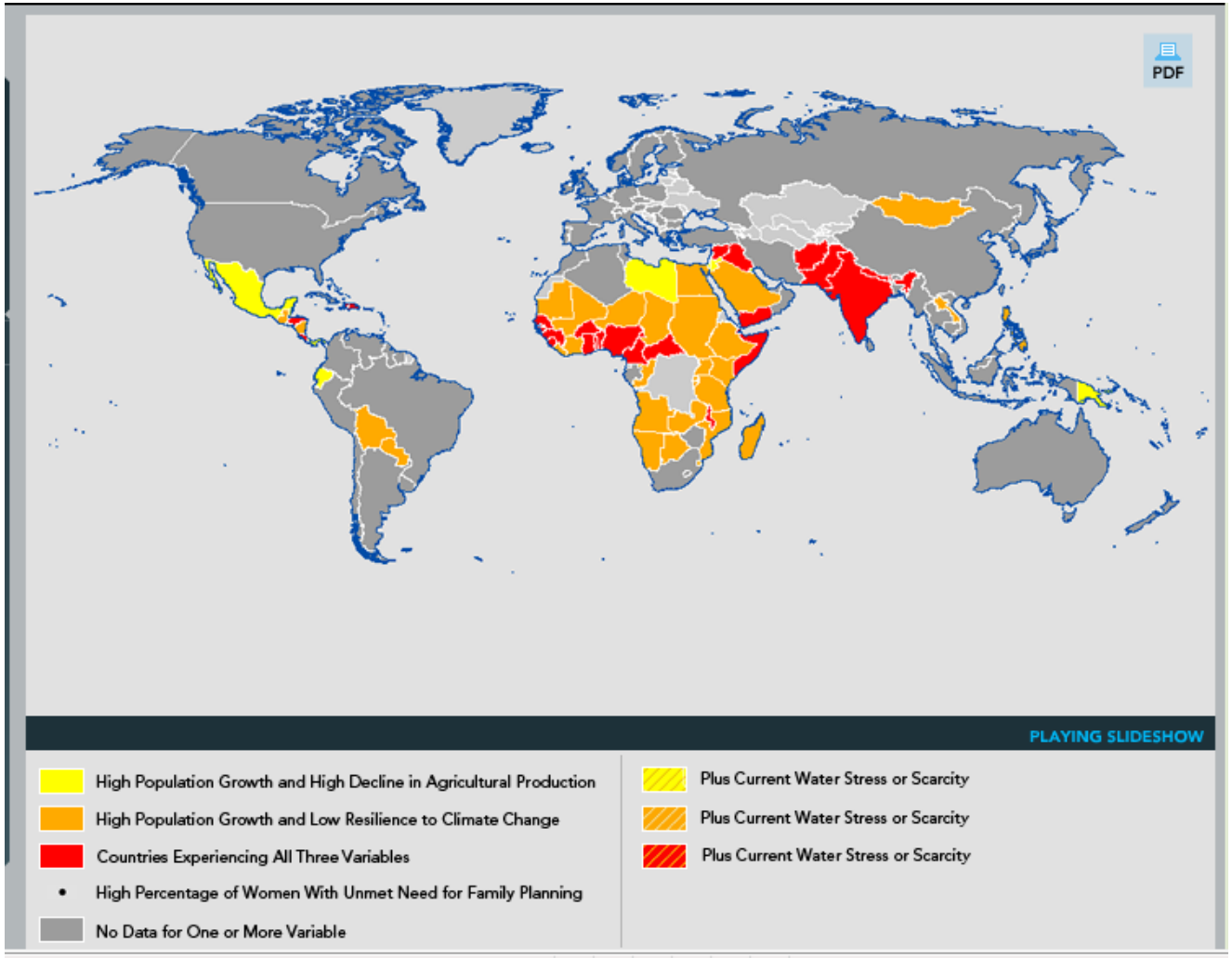
The outcome of human pressures on the forest corridor



The outcome of human pressures on the forest corridor

Biodiversity conservation, food security, and climate change: Contested spaces, contested resources

The Ranomafana – Andringitra forest corridor is a contested space. The future of the forest corridor will be shaped by global and national policy decisions around the crises of food security, conservation priorities, and now, global climate change. Biodiversity conservation and food security are compatible goals within the complexities of unfolding climate change realities.



Population Action International:
www.populationaction.org/Publications/Data_and_Maps/Mapping_Population_and_Climate_Change/Summary.php

Climate change and tenure in the Ranomafana – Andringitra forest corridor: How to approach the issues?

Climate change impacts on…

Adaptation

Ecological change and evolution of land use practices

- How are biophysical changes, such as evolving availability of water and forest resources, impacting local land use decisions?
- What degree of adaptation of tenure regimes is expected of local communities?
- Is there a need to assist customary and statutory regimes to adapt to new environmental conditions and social pressures?

Climate change and tenure in the Ranomafana – Andringitra forest corridor: How to approach the issues?

Climate change impacts on…
Mitigation

Payments for carbon sequestration

- Who can participate in carbon payment schemes (only those with formal rights or also customary rights holders)?
- What is the decision-making process for the distribution of rights and benefits?
- What dispute resolution mechanisms are present at different scales?
- What institutions at the local and national level are available to facilitate the clarification or determination of rights and benefits?
- What are the subsequent impacts of mitigation (ie: latent or pre-existing tenure rights) on other local and regional actors?

The New Challenge: Defining Rights to Carbon Benefit Streams from Carbon Sequestration

Explicit Rights	Implicit Rights Defined by Existing Forest Tenure System	Contractual Right Concession/PES/Easement
Carbon right is created by new law or amendment to existing law, clearly identifying the right and the right holder and how such right relates to land and forest ownership and use.	Carbon right is recognized based upon existing laws on land or forest rights that can be extended or interpreted to cover carbon sequestration	Carbon right is based upon an agreement that stipulates the nature and scope of rights. Agreements can exist between the government and parties or in the case of easements, without government involvement.

The inevitability of the evolution of customary and statutory systems: What are the implications for society and nature?