The Western Ghats Sentinel landscape: a platform to coordinate research efforts

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ATREE Mission

To promote socially just environmental conservation and sustainable development by generating rigorous interdisciplinary knowledge that engages actively with academia, policy makers, practitioners, students and wider public audiences

GEOGRAPHICAL FOCUS

Biodiversity Hotspots Western Ghats and Eastern Himalayas

ATREE
Ashoka Trust for Research in Ecology and the Environment

Educate
key leadership groups

Our interlinked objectives

Generate
Interdisciplinary knowledge

Engage
the state, society, industry and media

How are we organized?

Suri Sehgal Centre for Biodiversity and Conservation

Centre for Environment and Development

The Academy for Conservation Science and Sustainability Studies

Cross-cutting themes

- **Climate Change**
- **Governance**

Sentinel landscape

Partners

Western Ghats

Length = 1,600 km

Average width = 100 km

Highest peak = 2,695

Area = 1,60,000 sq km

Protected are = 17,000 sq km

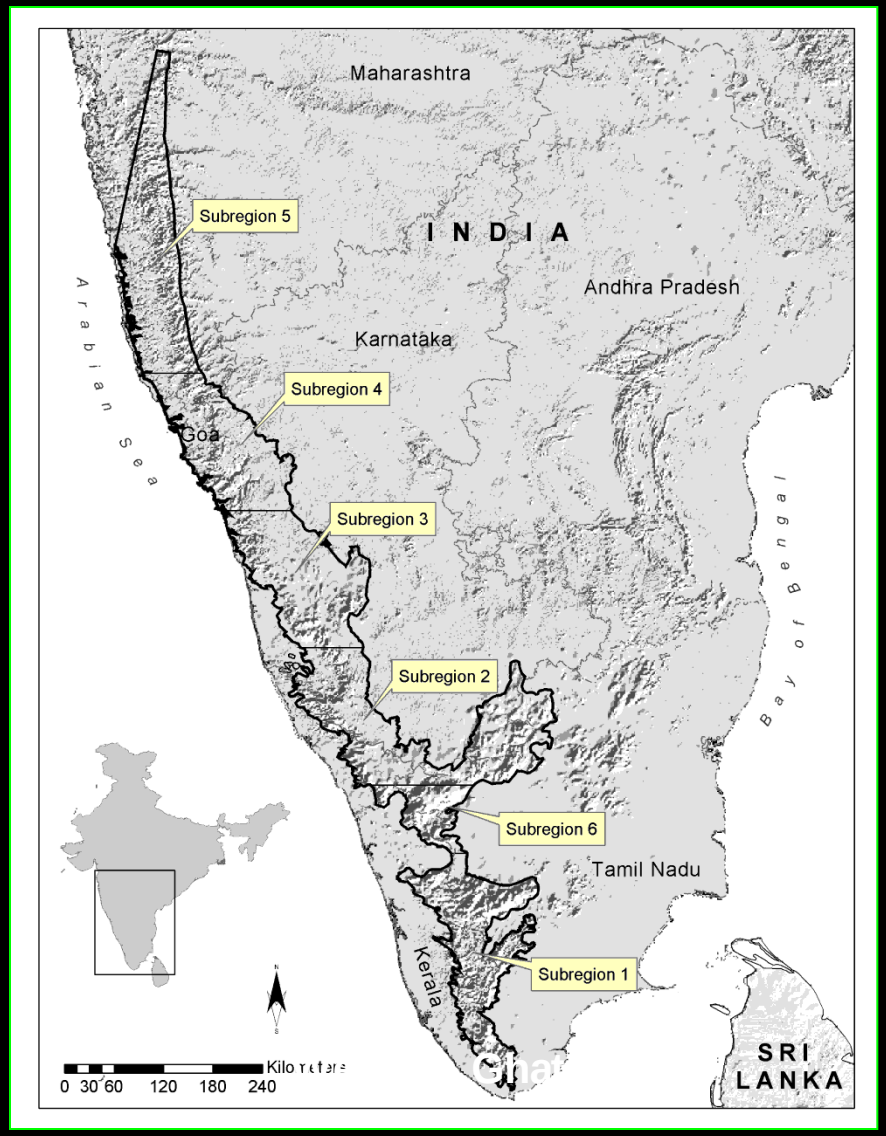
Plant species = 4,780 (46% endemic)

Rainfall = 2,500 mm

58 protected area

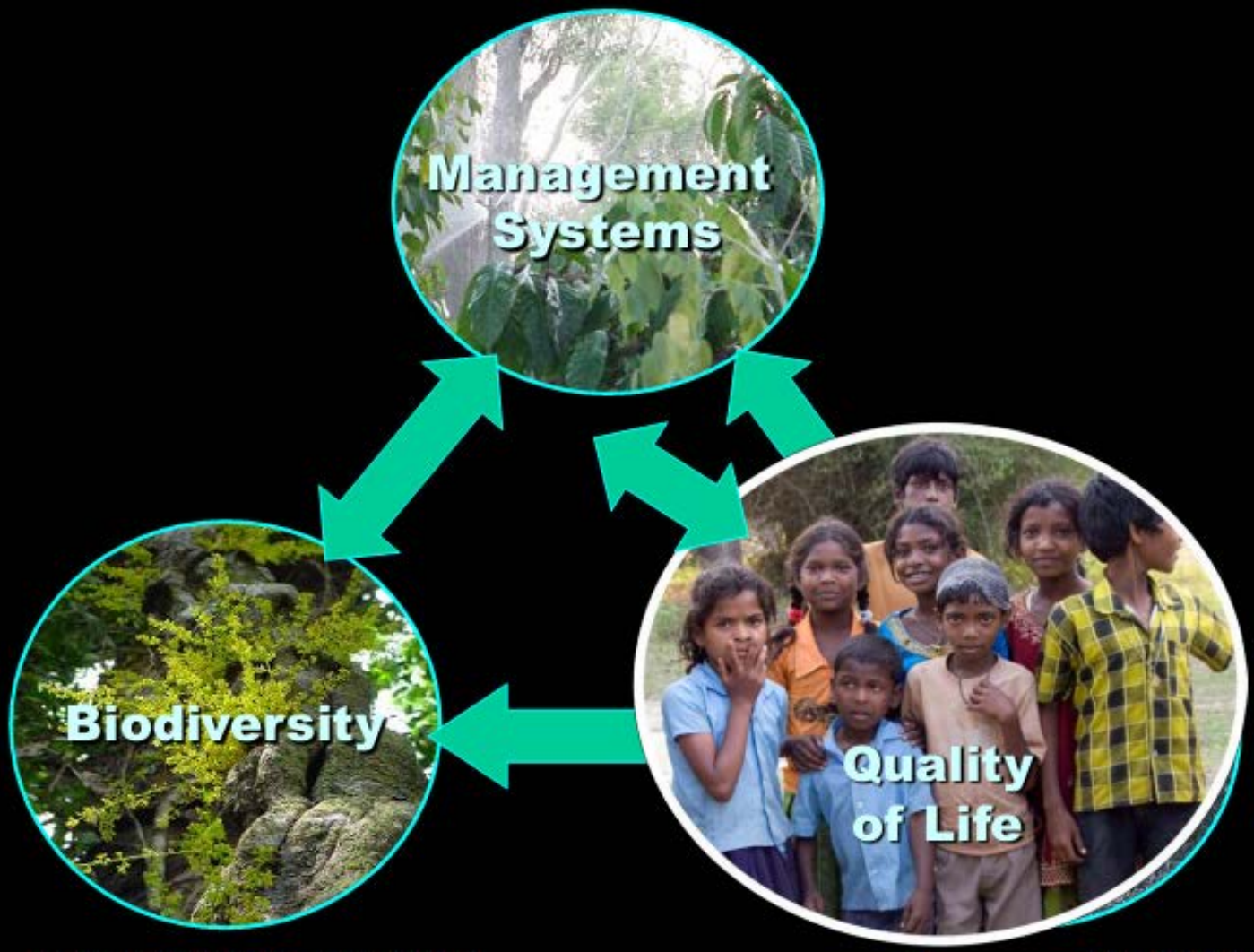
14 National parks

44 Wildlife sanctuaries



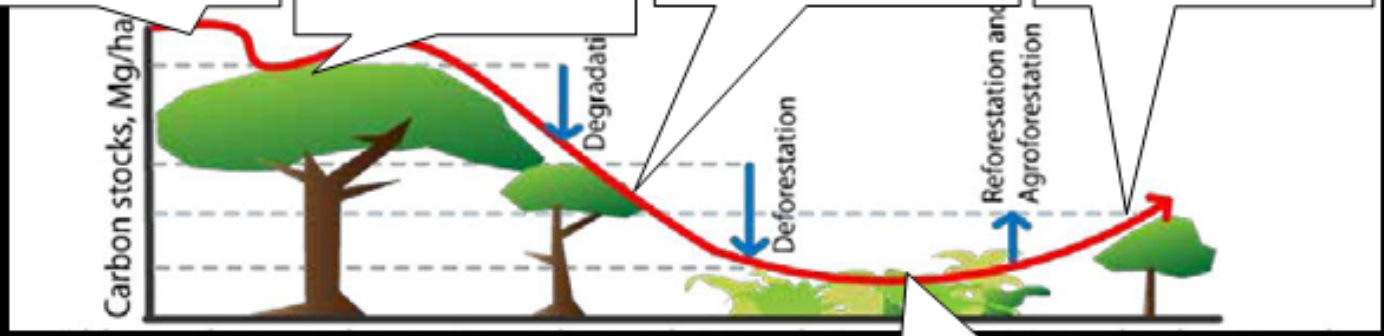
Sentinel Landscape

- Functional corridors for wildlife conservation
- Biodiversity hotspot
- Junction between eastern and western ghats
- Change in management status
- Change in agricultural and forest landscape
- Long-term monitoring data

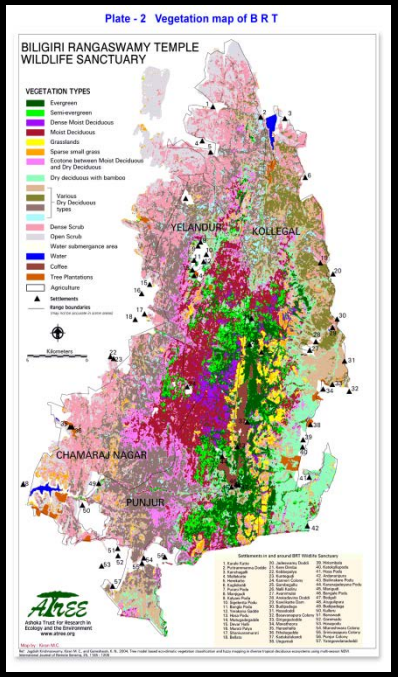

Management Systems
Biodiversity
Quality of Life

Landscape Mosaic

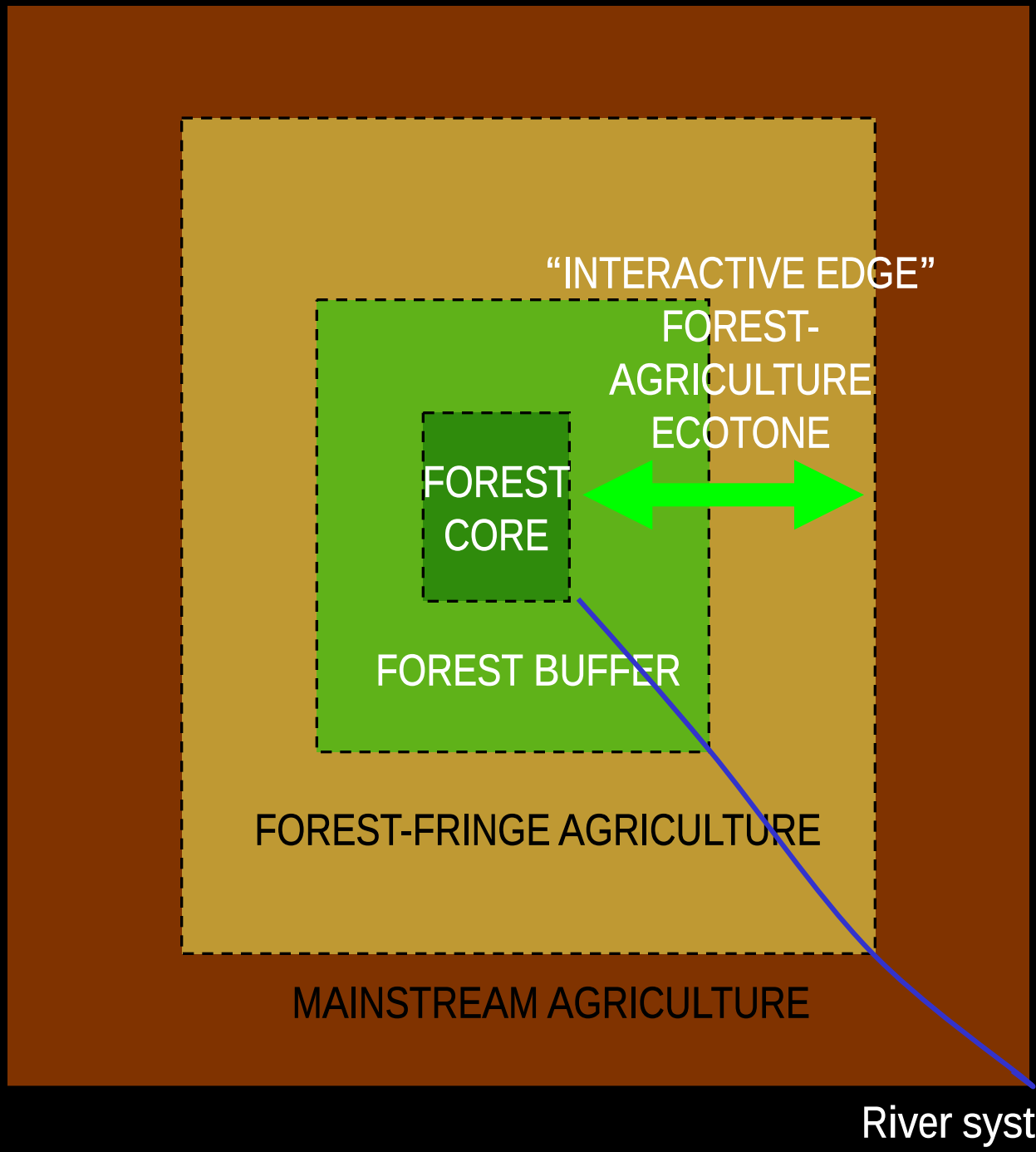
CRP6 Integration



The Biligiri Ranga Swamy Temple Wildlife Sanctuary in Karnataka, India



- Home to an indigenous group of people, the Soligas.
- Area is about 540 km^2.
- Junction between Western and Eastern Ghats.
- Includes about 1000 species of higher plants, 26 species of mammals, 215 species of birds, and at least 116 species of butterflies.



Dispersers

Pollinators

Forest-Agriculture Ecotones

- Small land holdings 1-2 acres
- Agriculture is adapted to the subsistence needs
- Human-animal conflicts
- Soil and water loss
- Erosion of traditional knowledge

- Shifting-agriculture before 1972
- Settled agriculture after 1972
- Tiger reserve status in 2011

Crop and seed diversity

Diversity of Amaranthus and traditional sweets

Native Bananas

10 varieties of Banana

Vegetable Garden

Seed conservation

Name	Varieties
Finger millets	27
Beans	56
Maize	5
Caster	7
Pumpkin	6
Chilly	6

Total seed diversity recorded 157

Change in Agriculture System:

Most of the farmers started growing shade-coffee at high altitude.

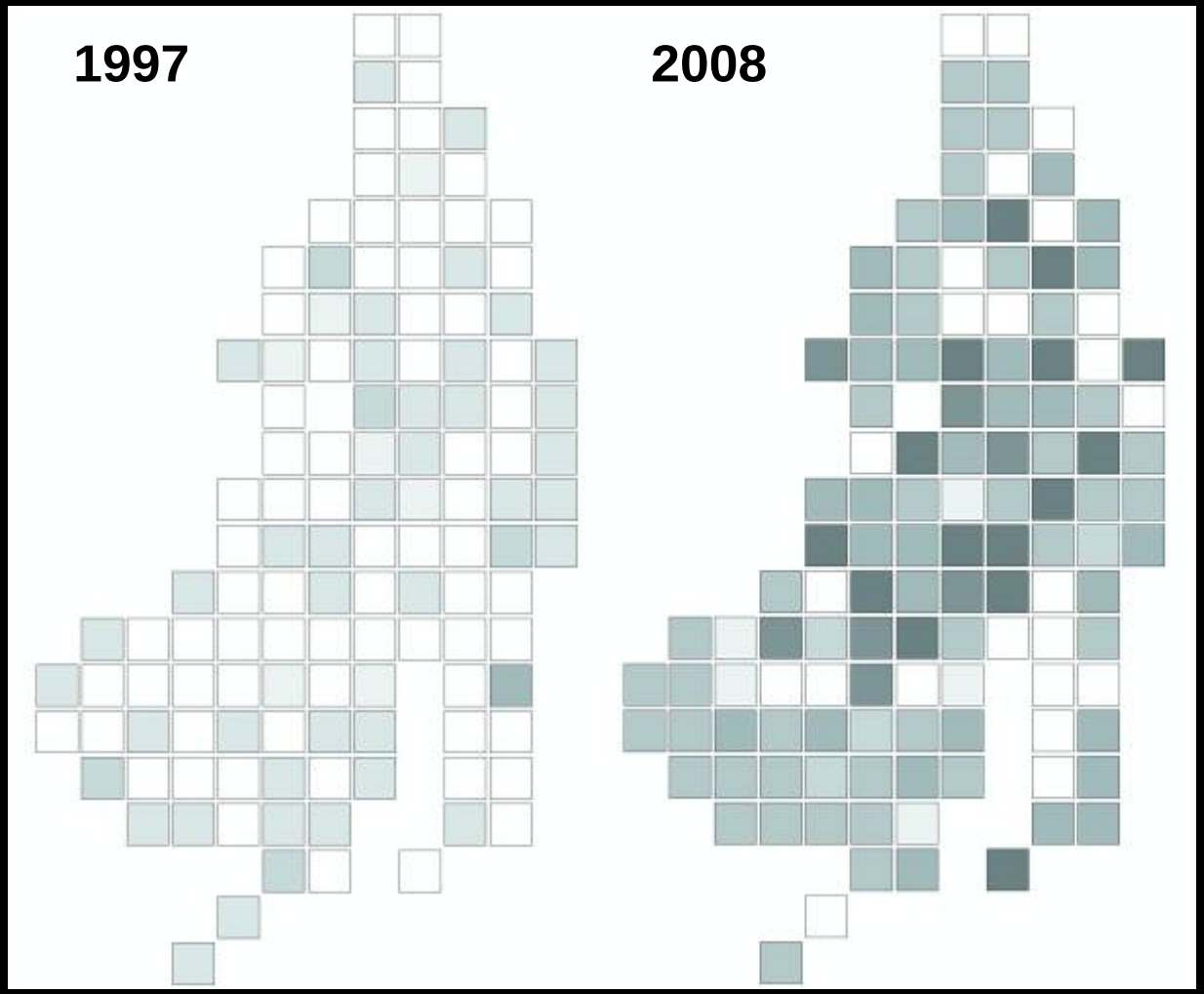
Native crop diversity is being decreased.

Drivers of forest change

FIRE: the control rather than the use

Lantana: increase in and therefore changing forest composition

Rapid spread of lantana 1997-2008



Lantana stems/hectare

0 to	0
1 to	50
50 to	100
100 to	1,000
1,000 to	2,000
2,000 to	3,000
3,000 to	22,300

	1997	2008
Non-lantana stems	9989 (95.7%)	6213 (66.2%)
Lantana stems	451 (4.3%)	3160 (33.7%)

Tribal Forest Rights Act 2006

Main objectives

– Correction of historical injustice

– Secure livelihoods and cultures

- Empowerment to protect habitat against destructive forces
- Gram sabha responsibilities to protect wildlife and forests.

Sacred sites

400 sacred sites

Institutional Mapping in the WGSL site

Contribution from the AgroParisTech-ATREE team

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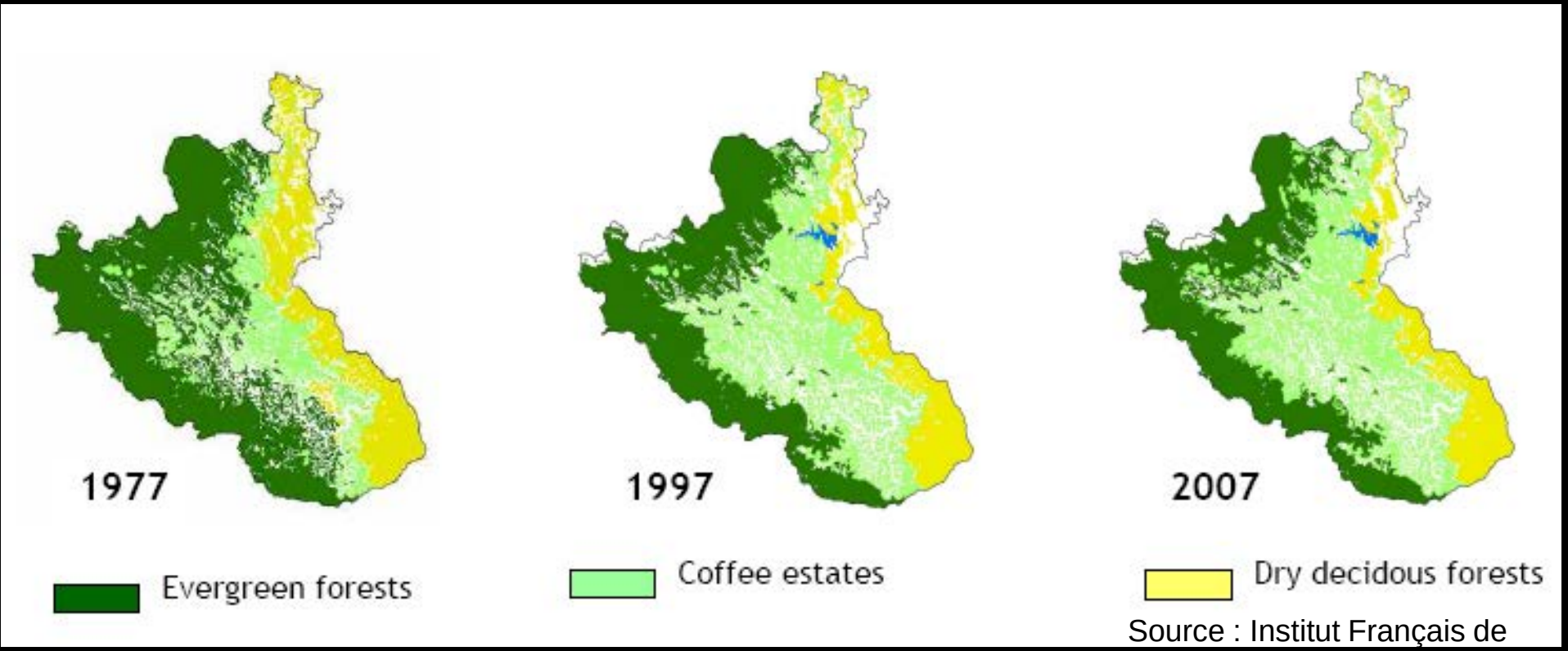
Sentinel Landscapes Workshop, Costa Rica — 3/3 to 8/3

A twofold approach to Institutional mapping

- Mapping institutions to understand landscape dynamics
  - Identifying institutions —involved in forest resources uses and management.
  - Describing the processes through which actors "play" with those rules
  - Two main types of data
  - Data derived from the IFRI approach at the village level
    - Rules in use
    - Types of forest resources used
    - User groups and possible conflicts between them

Coorg: the importance of the coffee sector (1)

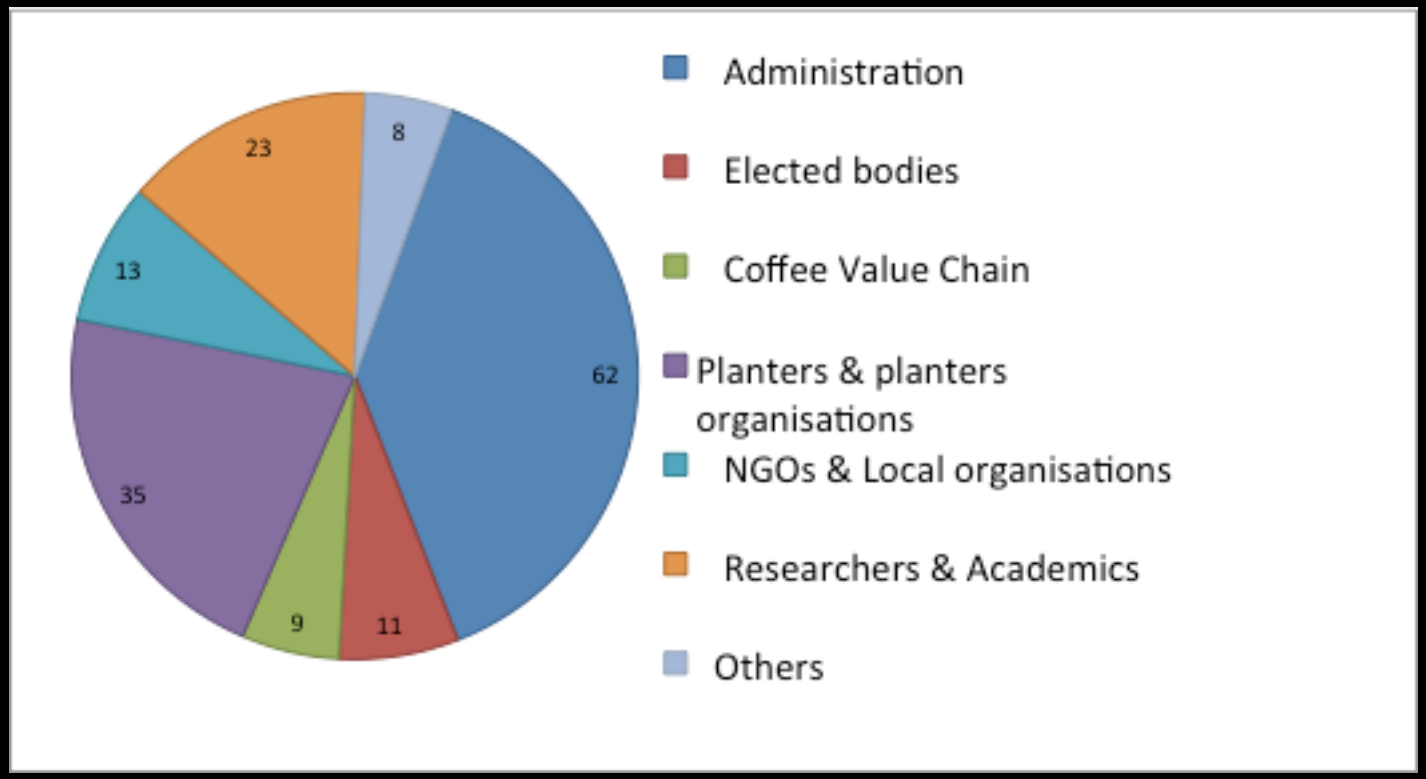
- Over the past 30 years: Coffee cultivation has doubled, while forest area has reduced by 30%



Source : Institut Français de

Coorg: the importance of the coffee sector

- An analysis conduced over the past 4 years, results to be presented in June 2014.
  - 161 interviews carried out with various actors



Chamarajanagar: the implementation of the FRA, main driver of landscape changes?

- 52% of the district is covered by protected areas and other areas being agricultural lands
- Several tribes live in these forests and claim for land rights
- The impact of the Forest Rights Act, 2006

  It gives them rights: over forest land and forest products…
- An overall question: ***How does the implementation of the FRA affect landscape changes in the Chamarajanagar district?***

Thank you