Hue University
Institute of Resources and Environment
IREN

Redefining diversity and dynamism of natural resource management in ASIA

Sustainable forest production in context of REDD+ & PFES in Vietnam

ASIA REGIONAL BIENNUAL IASC MEETING 2018

13-16 JULY AIT

BANGKOK, THAILAND

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IREN: Who we are?

Established in 1995

Focus: Environmental Technology, Environmental Management, Environmental management, Environmental Informatics; Forestry and Natural Resources Management.

Functions:

- Teaching: Silviculture, Environmental ecology, Forest resource management, Sustainable forest management.
- Research: Biodiversity, forest business, environmental management, resources and climate change.
- Consultancy: forest policies, forest certification, land-use change, environmental impact assessment, GIS/RS applied in natural resource management

Vision: A think-tank research institute that provide solutions for global/regional issues related to environmental and natural resource management

Mission: Excellent research outputs transferred to management regime at regional, national and local levels.

International cooperation: UNIQUE Forestry & Land Use (Germany), UNIL (Switzerland), Ghent University (Germany), Okayama University (Japan), Chiang Mai University (Thailand), Savanakhet University (Laos PDR)

IREN's stories to IASC meeting:

(c) How can the sustainability of efforts to improve the productive capacity of CPR systems be assessed in the context of current debate on the effects of climate change and initiative and implementation of new programs such as PES and REDD+?

Present 2 stories:

Story 1: Sustainable business models of plantation forest in context of REDD^{+}

Story 2: Assessing the nature of a 'forest transition' in Vietnam (SNSF 2017-2023)

Story 1:
Sustainable business models of plantation forest in context of REDD+

- Funded by German Ministry of the Environment (BMUB) through its International Climate Initiative (ICI)
- Consortium Viet Nam: UNIQUE - IREN - Climate Focus
- Objective: to develop and implement sustainable business models for the forestry sector
  - Highly profitable
  - Significant contribution to implementing REDD+
  - In line with national & local policies and forest owner priorities
- Project life-time: May 2014 – May 2018

Bundesministerium
für Umwelt, Naturschutz,
Bau und Reaktorsicherheit

UNIQUE
forestry and land use

CLIMATEFOCUS

Forestry in Vietnam

- **Since the 90s: successful reestablishment of forest cover (27% → 42%)**
- **Natural forest remain highly degraded (mostly poor forests)**
  - → need for massive investments & silvicultural effort to restore them

▪ **FOCUS on production forests / plantations**

- ➢ Well-established value chains for plantations
- ➢ Low profitability, rapidly decreasing with increasing labour costs
- ➢ Increasing risks (pests & typhoons)
- ➢ Not taping market potential – most timber for export was imported

▪ **APPLY many parallel policy processes**

- ➢ Practice sustainable forest management plan
- ➢ REDD+ at different levels
- ➢ Forest certification,
- ➢ Revision of the forestry law,
- ➢ PFES …

Progress of REDD+ in Vietnam

- **Viet Nam has committed in Paris (Dec. 2015) to mitigate climate change**
  - Nationally determined contributions (INDC of VN): massive emission reductions are supposed to come from the forestry sector
  - VN submitted REDD+ reference level in Jan. 2016

- **Currently at national level:**
  - Revision of decision 799/QD-TTg (NRAP 2016 – 2020)
  - Revision of the forestry law

Progress of REDD+ in Vietnam

- **FCPF Viet Nam → program proposal for NCC-VN to the Carbon Fund**
  - Currently under review, could start soon
  - Business models cited as main option to perform & receive results-based payments

- **REDD+ pilot provinces: PRAP ratification & implementation plans**
  - Provincial policies on long-rotation plantation: what – how much – where?
  - Business models plantation – many thousand ha – forest areas of large forest owners
  - Open question: how to cope with the challenges & build capacities?

Steps & activities

Phase I (2014)

- Scoping & **feasibility study** → confirmed economic & REDD+ potential
- Established **partnership with IREN / Hue University**
- Discussion of models & coordination: MARD, FCPF, UN-REDD, JICA, GIZ, KfW …

Phase II (2015)

- Presentation & discussion with DARD, SFCs & PFMBs **→ search for implementation partners**
  - Demonstrate that the models are feasible & challenges can be addressed
  - Assessing challenges & options to address them
- Several WSs & conference in Hue (Oct. 2015) → 6 partner SFCs & PFMBs

Phase III (2016-2018)

- Training & implementing models on silviculture, harvesting, environmental impact monitoring

Business models for sustainable plantation in Vietnam

- **Transition from short-rotation Acacia plantations to sustainably managed production forests** ***(also applicable to enrichment plantings in degraded protection forests)***
  - Introduction of high-value native tree species
  - Improving silvicultural management of Acacia plantations for high-value sawn-log production

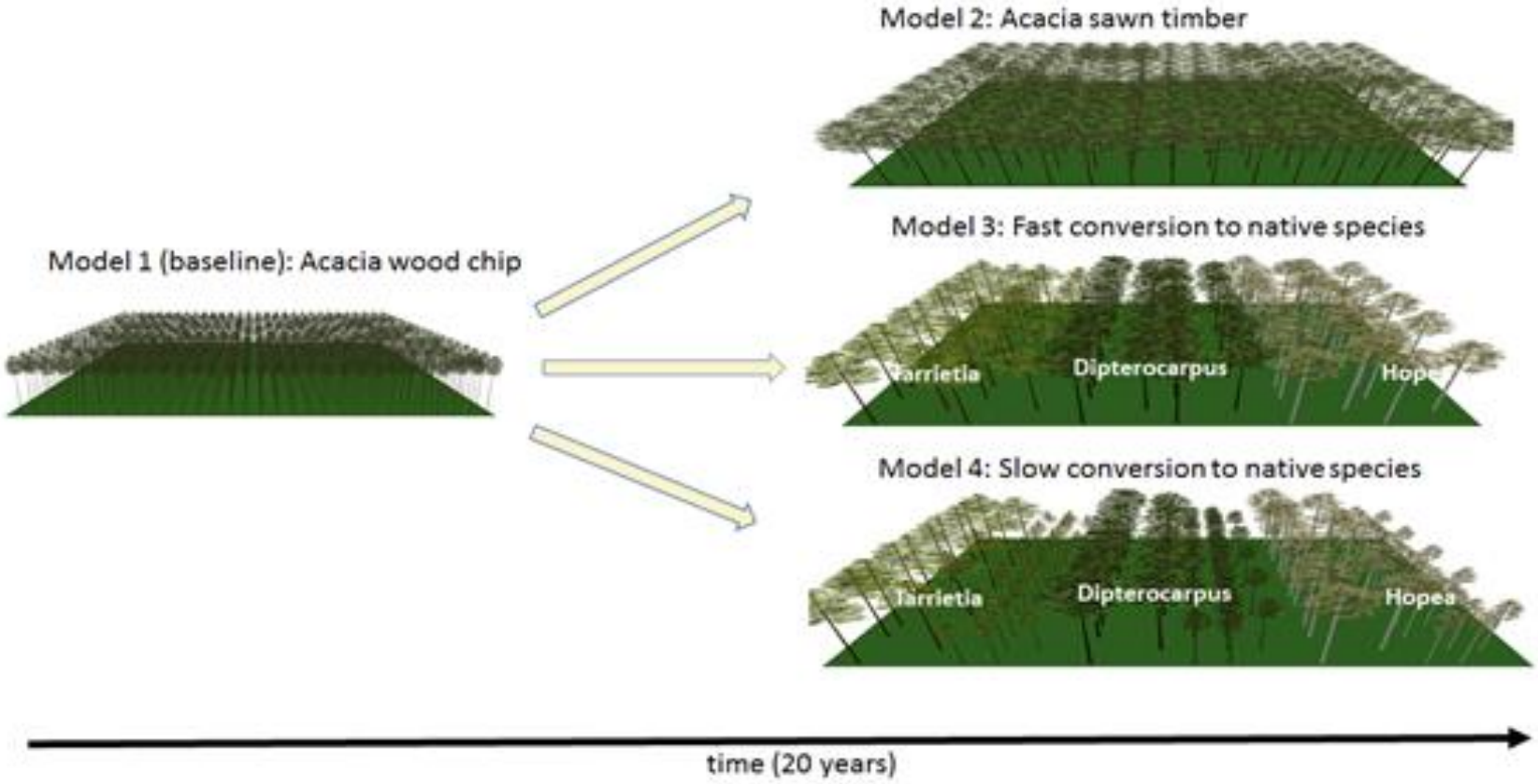
Acacia: suitable species to rehabilitate barren land

  - Well-established value chain but very low profitability
  - High & growing demand (export markets): > 60% imported

- **reference scenario**
  - **3-year-old Acacia plantation**
  - Clear cut after 5-6 years for wood chip production

Business models for sustainable plantation in Vietnam

- **Model 2:** Acacia rotation period to 12 years, diversification of production towards sawn logs (garden furniture)
- **Model 3**: FAST conversion to native species in yr. 4 & 6
- **Model 4**: SLOW conversion to native species over 16 years



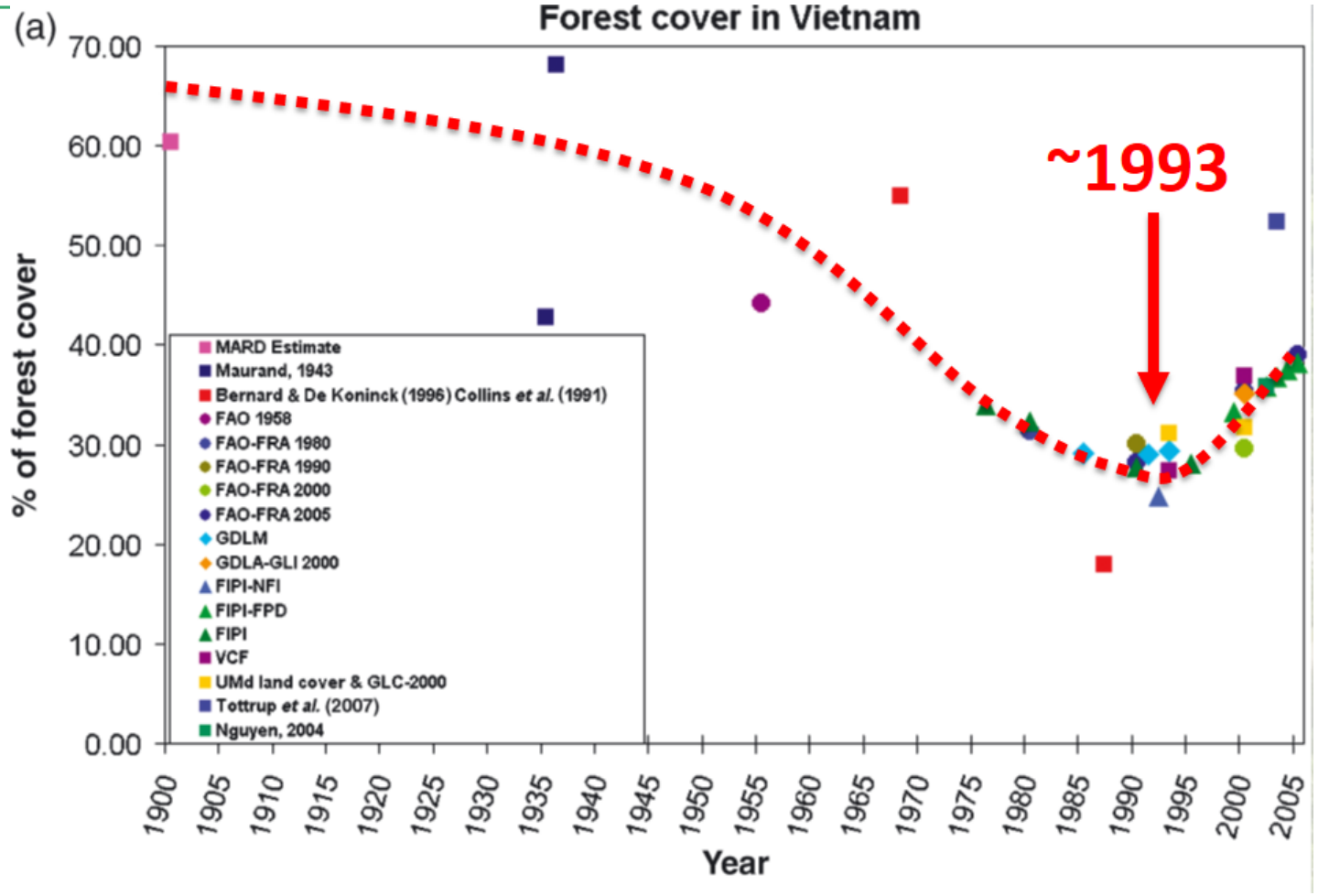
Summaries

- Plantation ‘boom’ in Vietnam: small households (25% of forestry land) need demonstration business models for high productivity of timber and care for environmental protection;
- Short-rotation plantation caused severe soil erosion, water shortage, carbon deficit and thus leading to higher negative impacts on climate and hydrology schemes.
- Integrating native timber species in suitable stages of Acacia plantation can resolve both economic and environmental issues;
- New forest policies provided strong incentives for long-term rotation: forest certification (Decision 83), sustainable forest management (Decision 38, new Forest Law)
- Technical supports are needed for new initiatives (training, coaching, consultancy)

Story 2:
Assessing the nature of a 'forest transition' in Vietnam (SNSF 2017-2023)

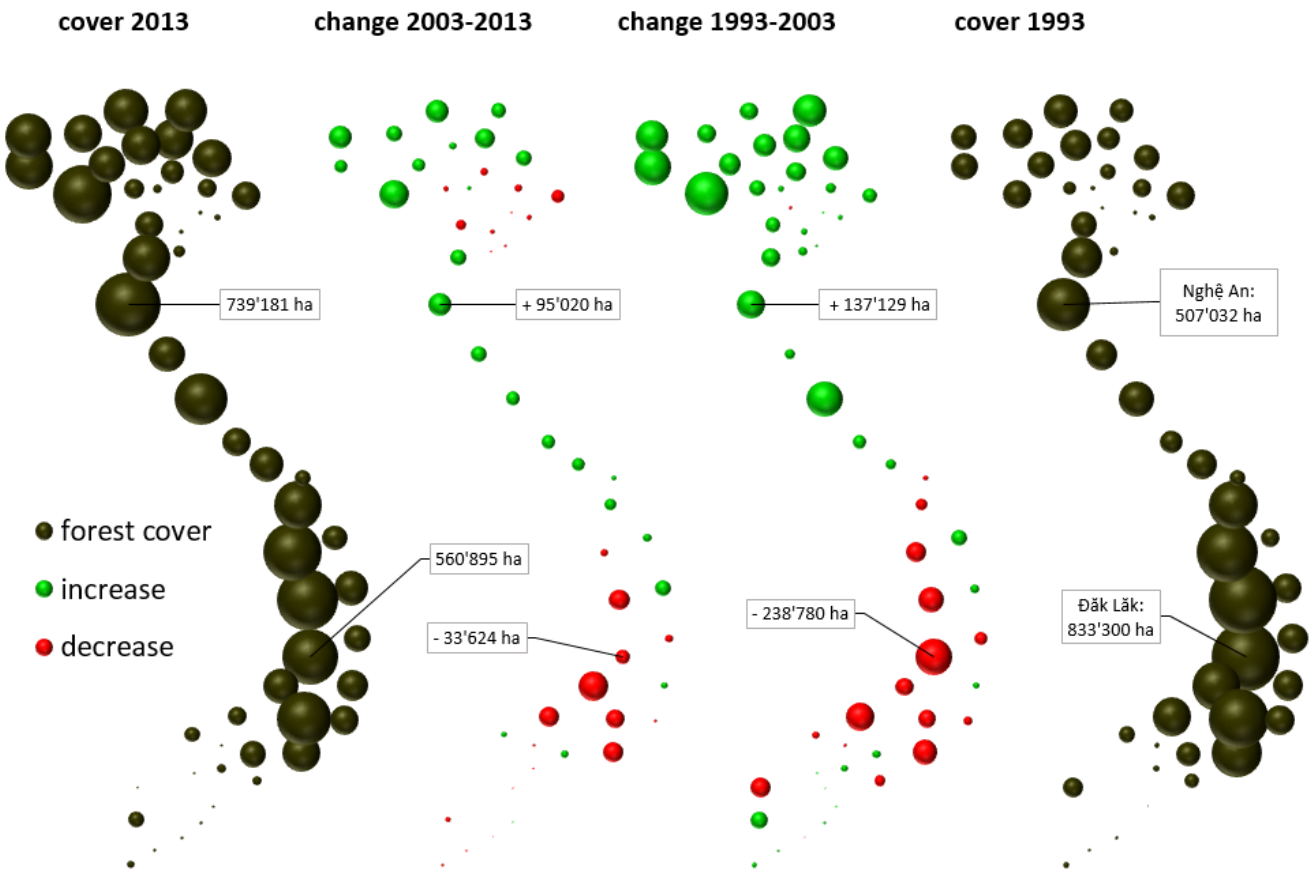
Ecosystem services and social-ecological resilience in locally managed forest landscapes

- Forest cover in Vietnam dramatically change
  - 1945 – 1975: 43% - 60%
  - – 1990: - 27 %
  - – 2017: – 42%
- Quality and quantity of forest was changed



Forest cover in Vietnam dramatically change

Natural forest cover changes in Vietnam 1993-2003, and 2003-2013



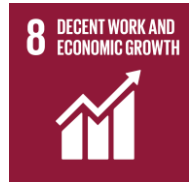
Objectives & research questions

To investigate the forest transition (FT) in Vietnam, with a special focus on forestlands managed by households under PFES schemes

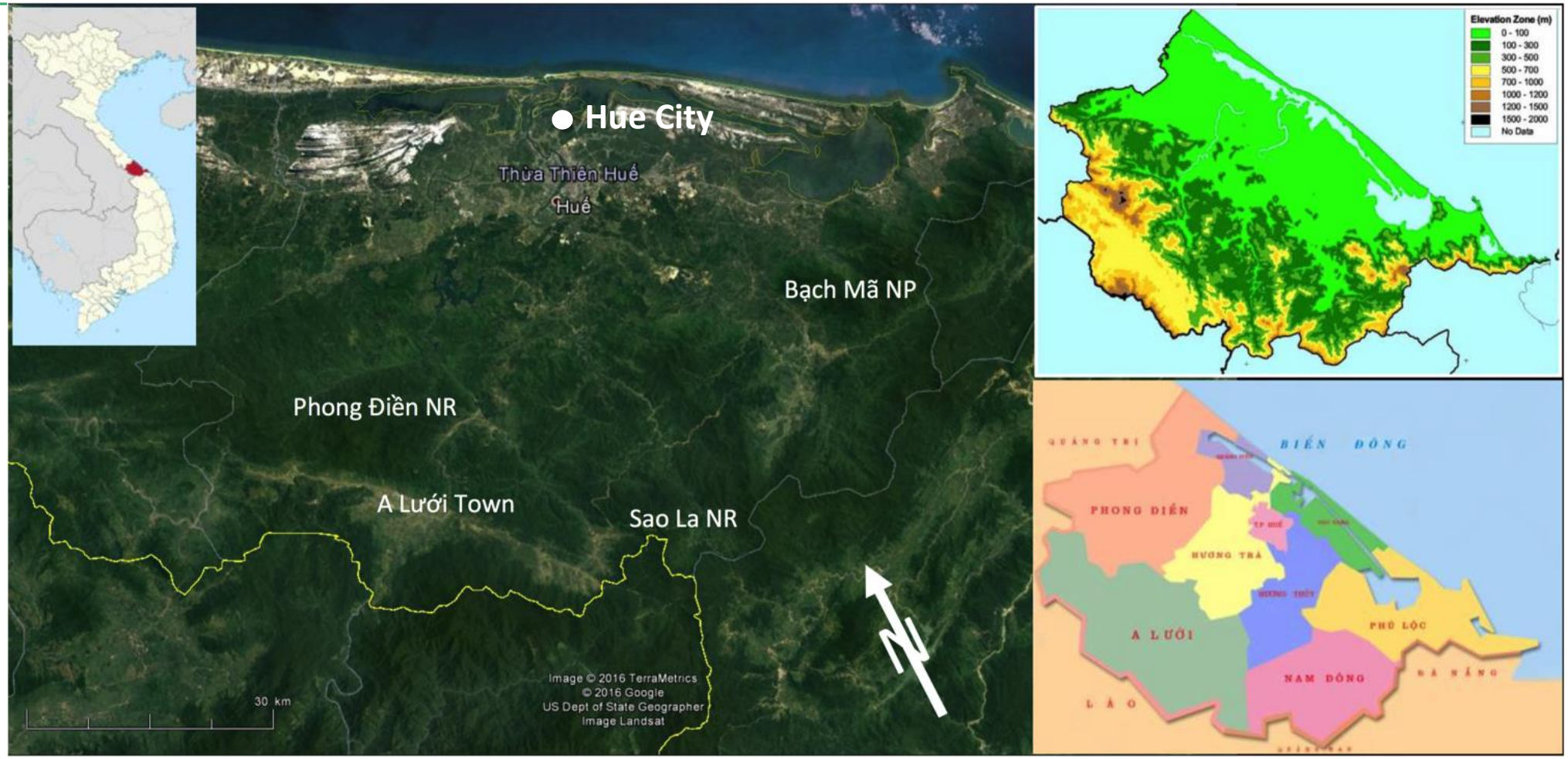
- Is a sustainability-quality FT occurring in Vietnam?
- What does the FT mean for the country's human development and people's standards of living?
- Which factors are most important to determine the course of a FT, and how can they be influenced (via policy advocacy, capacity building)?

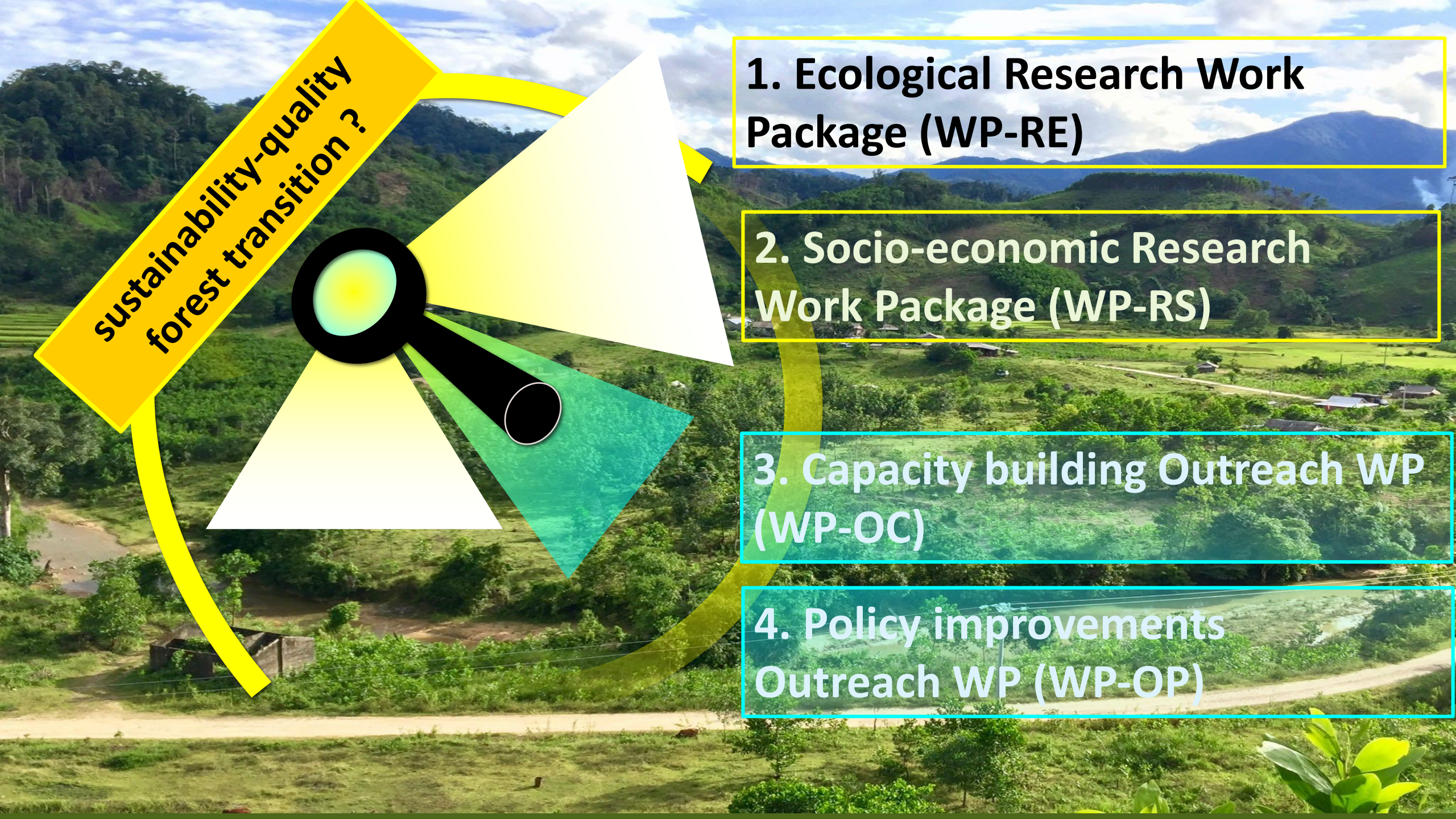
Contribute to SDGs

- 1. Poverty eradication
- 8. Decent work and economic growth
- 12. *Management and technical capacity for sustainable resource use and production* (targets in Goal 12)
- **15. *Sustainable forest management* (core target in Goal 15)**
- 17. International scientific cooperation (core target Goal 17)



Project focal region :
Thừa Thiên-Huế Province




sustainability-quality forest transition ?
1. Ecological Research Work Package (WP-RE)
2. Socio-economic Research Work Package (WP-RS)
3. Capacity building Outreach WP (WP-OC)
4. Policy improvements Outreach WP (WP-OP)

Ecological Research Work Package (WP-RE)

main responsibility: R. Cochard (UNIL)

indicators of ecosystem services

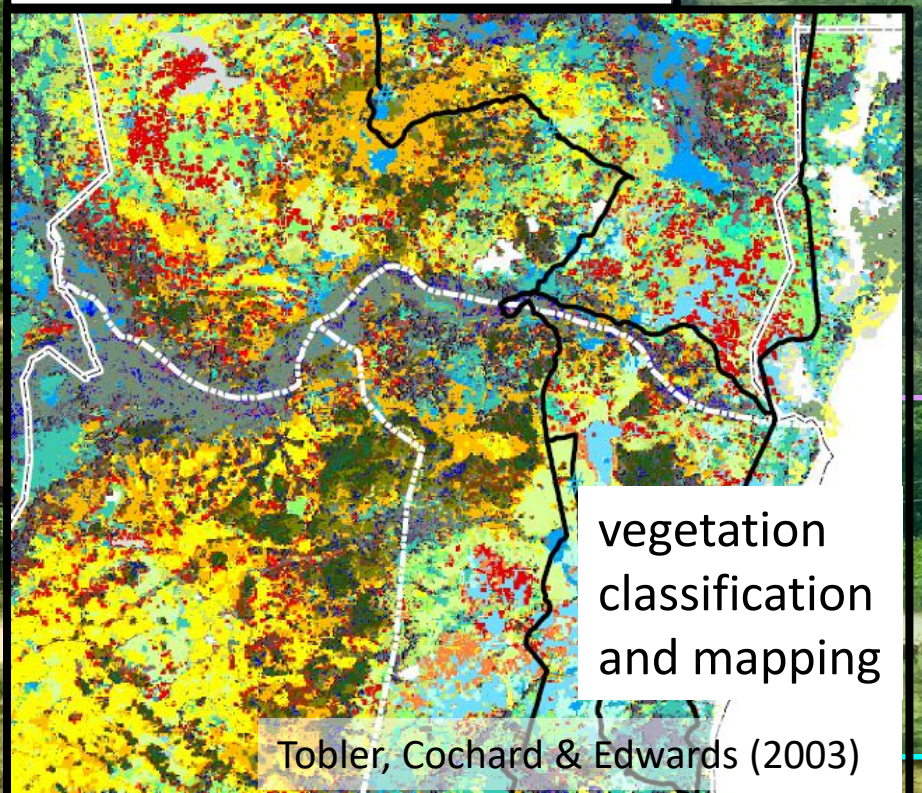
special case studies

TABLE 13.1 Values of Ecosystem Services (in Millions of U.S. Dollars per Year) as Estimated Through Projective Modeling Over a 30-Year Period From 2008 to 2038 by van Beukering et al. (2009)

Forest Ecosystem Services	Valuation Sources or Methods	Conservation	Deforestation	Value Difference
		Million US$ year^{-1}		
Provisionary ecosystem services (PES)				
Water supply (housing, industries)	Water prices	138	45	67%
Fisheries	Market values	128	98	23%
Hydro-electricity	Energy prices	1.4	0.7	50%
Agriculture	Market/various	206	166	19%
Nontimber forest products	Market/various	21	9	57%
Timber	Timber prices	−10?	149	−100%
Subtotal PES		484	467	4%
Regulating ecosystem services (RES)				
Carbon conservation/sequestration	Carbon price REDD	56	0	100%
Fire prevention	Various/studies	12	9	25%
Landslide prevention	No reliable data	?	?	?
Flood prevention	Damage data/var.	105	90	14%
Subtotal RES		173	99	43%
Cultural ecosystem services (CES)				
Tourism	WTP/CVM	7	1	86%
Biodiversity conservation	WTP/various	30	6	80%
Subtotal CES		37	7	82%
Total		694	573	17%

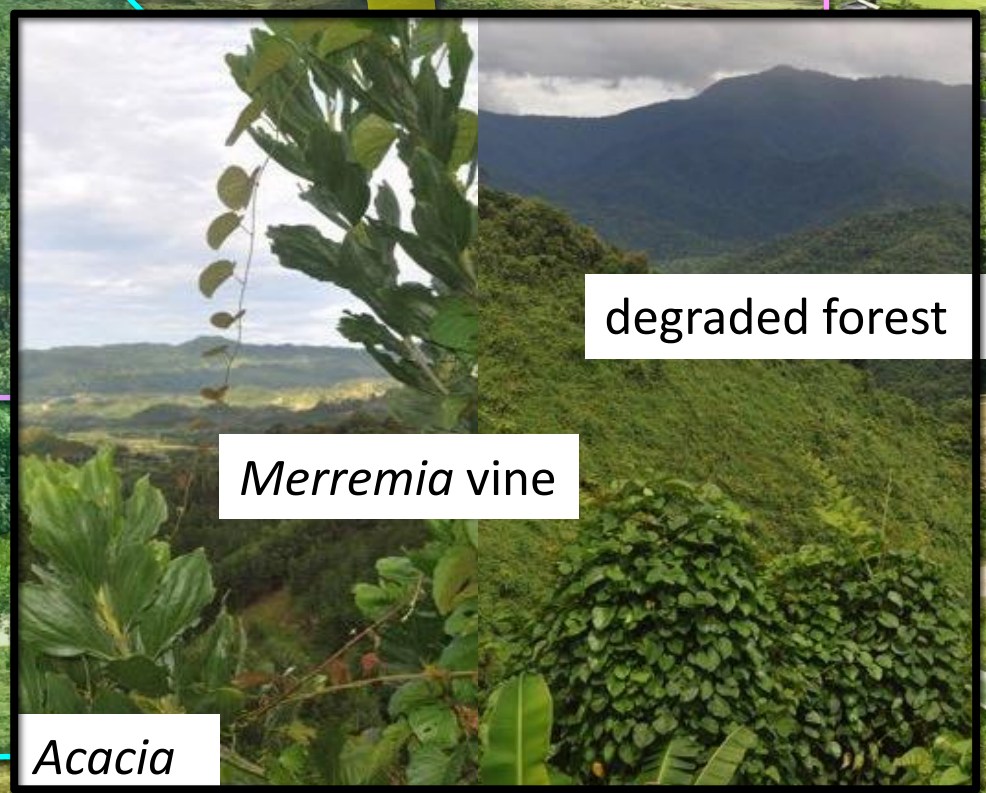
? Value unknown
The values were assessed in a conservation scenario and compared to the [illegible] difference" indicates the decrease of value (in percentage) from the conservation to the deforestation scenario.

Cochard (2016)



vegetation classification and mapping

Tobler, Cochard & Edwards (2003)



degraded forest

Merremia vine

Acacia

future visions

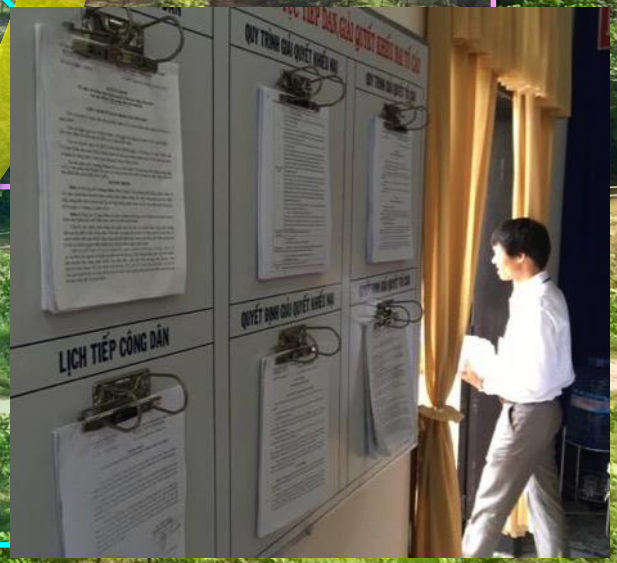
commodity chains

sustainable livelihoods approach

stakeholder analysis

Socio-economic Research Work Package (WP-RS)

main responsibility: C. Kull (UNIL)



policy analysis

forest industry

forest professionals

rural labourers

Capacity building Outreach Work Package (WP-OC)

main responsibility: Tran Nam Thang (HUAF)

university training

villagers

local leaders

Policy improvements
Outreach Work Package (WP-OP)

main responsibility: Ngo Tri Dung (IREN)

Relevance of project components to major forest policies

Policies	WP-RE	WP-RS	WP-OC	WP-OP
Forest Law revision (2017)	Focus more on forest functions and FES	Contribution of total forest values to socio-economic sustainability	Capacity of forest stakeholders to maintain forest values	Participatory decision making process of forest-related policies.
PFES (Decree 99, Decree 147)	Forest types and processes to sustainably produce FES	Distribution of payments in maintaining FES and improving livelihoods	Technical and management skills to provide long-term FES	Equity and effectiveness of PFES among stakeholders
REDD+ (Decision 799)	Carbon sequestration & monitoring	REDD+ safeguards against risks to local people	Capacity of forest owners to claiming carbon credits	Prevention of leakage and practice of perfomance-based payments
SFM & FSC (Decision 1280, Decree 75, Decision 38)	Forest diversity and productivity (products and services)	Participation of marginalized groups in forest economy	Skills for SFM & achieving forest certification	Assurance of integration of socio-economic aspects in SFM practice

Overall aim: Promoting sustainable forest management, ecosystem service provision, and resilient rural livelihoods in the "transitioning" forests of Vietnam

Pathway: Knowledge generation

Pathway: Investing in people and ideas
(Knowledge exchange, capacity reinforcement, awareness, advocacy)

basic research

outreach and interaction

Work Package RE: Research on ecological character of forests and their services

Work Package RS: Research on past and future driving forces of forest transitions

Work Package OC: Capacity building, awareness, and knowledge brokering

Work Package OP: Evidence-based policy analysis and recommendations

Scenarios of change in the forest landscapes of Vietnam, looking backwards (explain past) and forwards (vision future).

Includes changes to:

- *forest ecology and services provided*
- *forest-linked lives and livelihoods*
- *forest policy and institutions*

Drivers and levers of change: *policies on land and forests, markets, social dynamics, livelihoods, climate change, invasive species*

Stakeholders
Who is affected by the changes?
Who wins, who loses?

Who can effect change?
Who will win, who will lose?

Who participates in visioning and effecting change?
How to engage these participants?

identify

Enablers and spoilers of change

engage

Hue University

Institute of Resources and Environment

IREN

LIÊN LAC

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