



VetAgro Sup



Sur l'initiative
et avec le soutien



Et des partenaires



Colloque Santé-Biodiversité
27&28 octobre 2014 à VetAgro Sup

Quels services écosystémiques de régulation pour les maladies infectieuses ?

Serge Morand

CNRS - CIRAD

Centre d'Infectiologie Christophe Mérieux du Laos

Faculté de Médecine Tropicale, Univ Mahidol, Thaïlande

La convention sur la diversité biologique



Convention on
Biological Diversity

Se

The Convention

Cartagena Protocol

Nagoya Protocol

Programmes

Information

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News Headlines on Biodiversity

> Information > SBSTTA Recommendation

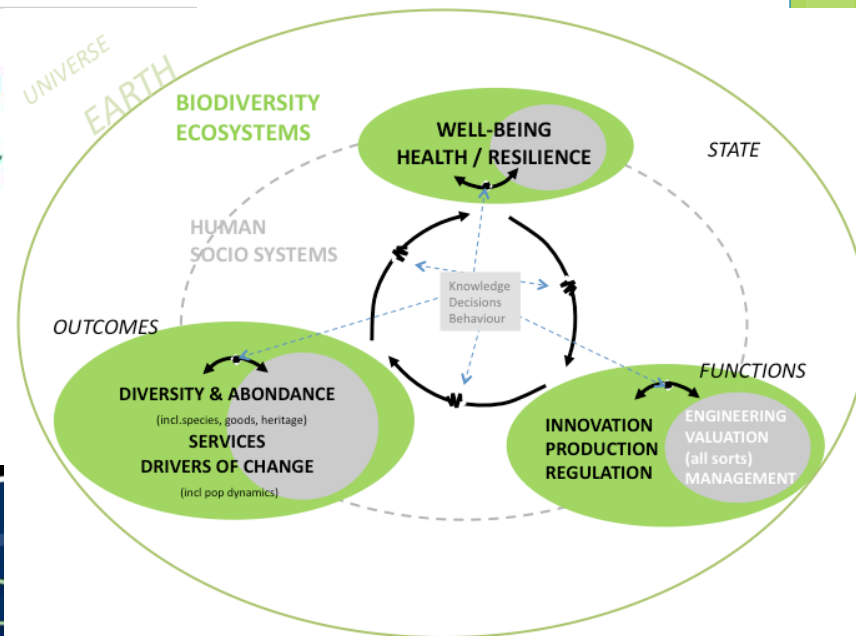
Back to SBSTTA Recommendations

SBSTTA 18 Recommendation

XVIII/14. Health and biodiversity

L'IPBES

UNIVERSE
EARTH

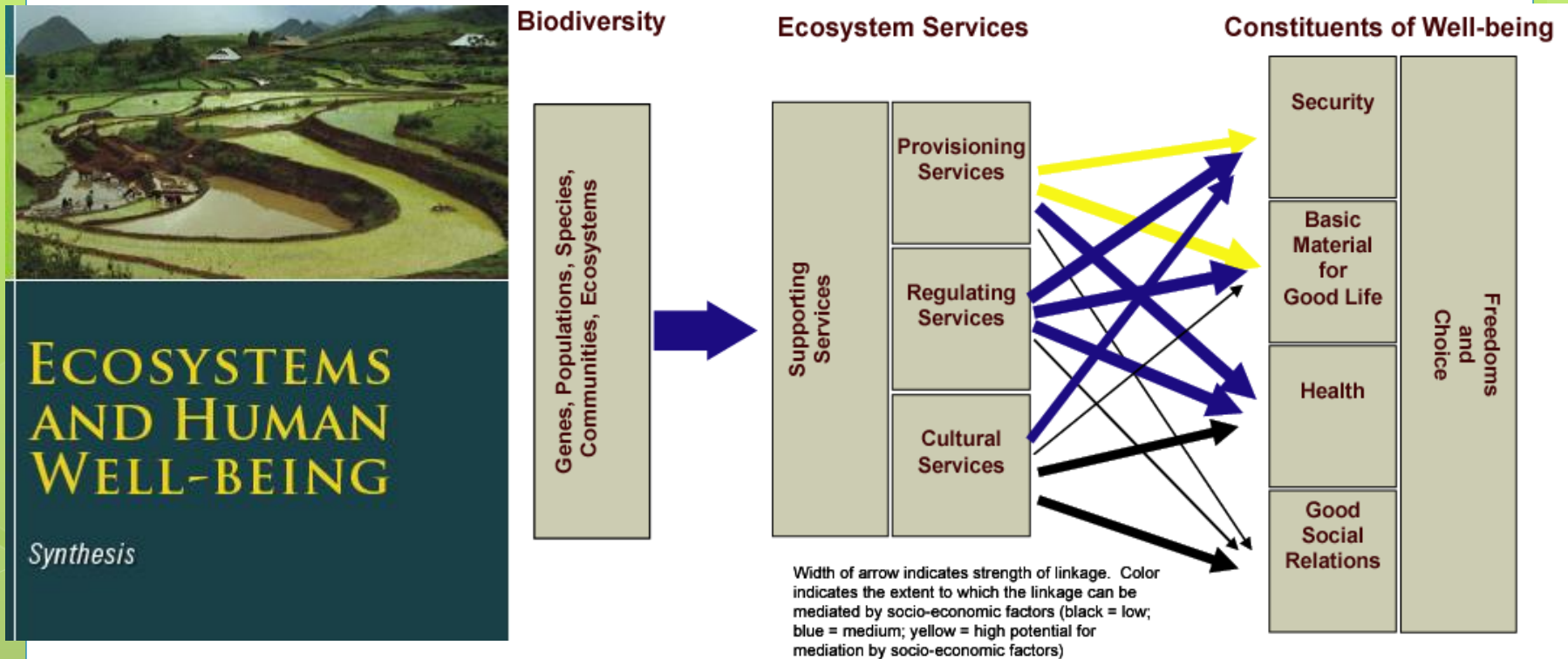


Intergovernmental Platform on
Biodiversity & Ecosystem Services

ipbes
Science and Policy
for People and Nature

<http://www.ipbes.net/>

Millenium Ecosystem Assessment (2005): services écosystémiques



- 60% des écosystèmes sont dégradés
- source de conflits
- réduction de la pauvreté implique un usage soutenable des écosystèmes

THE
ARGUMENTS
FOR PROTECTION
SERIES



VitalSites



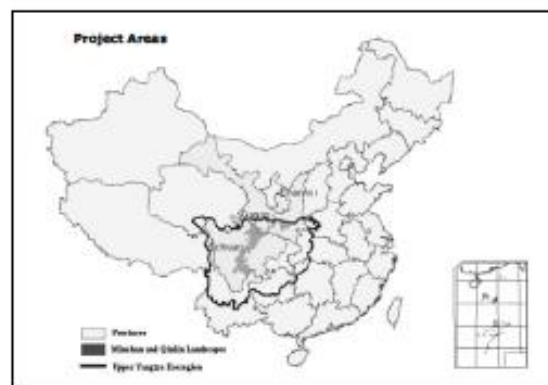
The contribution
of protected areas
to human health

A research report by WWF and Equilibrium



Local doctor prescribing traditional medicine to a patient in the Annapurna Conservation Area, Nepal

© Michel Gunther / WWF-Canon



EU-China Biodiversity Programme project area (left). Xian market (right) © WWF China

Biodiversity loss and its impact on humanity

Bradley J. Cardinale¹, J. Emmett Duffy², Andrew Gonzalez³, David U. Hooper⁴, Charles Perrings⁵, Patrick Venail¹, Anita Narwani¹, Georgina M. Mace⁶, David Tilman⁷, David A. Wardle⁸, Ann P. Kinzig⁵, Gretchen C. Daily⁹, Michel Loreau¹⁰, James B. Grace¹¹, Anne Larigauderie¹², Diane S. Srivastava¹³ & Shahid Naeem¹⁴

Table 1 | Balance of evidence linking biodiversity to ecosystem services

Category of service	Measure of service provision	SPU	Diversity level	Source	Study type	N	Relationship	
							Predicted	Actual
Regulating								
Biocontrol	Abundance of herbivorous pests (bottom-up effect of plant diversity)	Plants	Species	DS*	Obs	40		
		Plants	Species	DS†	Exp	100		
		Plants	Species	DS‡	Exp	287		
		Plants	Species	DS§	Exp	100		
	Abundance of herbivorous pests (top-down effect of natural enemy diversity)	Natural enemies	Species/trait	DS*	Obs	18		
		Natural enemies	Species	DS†	Exp/Obs	266		
		Natural enemies	Species	DS‡	Exp	38		
	Resistance to plant invasion	Plants	Species	DS	Exp	120		
	Disease prevalence (on plants)	Plants	Species	DS	Exp	107		
	Disease prevalence (on animals)	Multiple	Species	DS	Exp/Obs	45		

Conservation Efforts May Increase Malaria Burden in the Brazilian Amazon

Denis Valle^{1*}, James Clark²

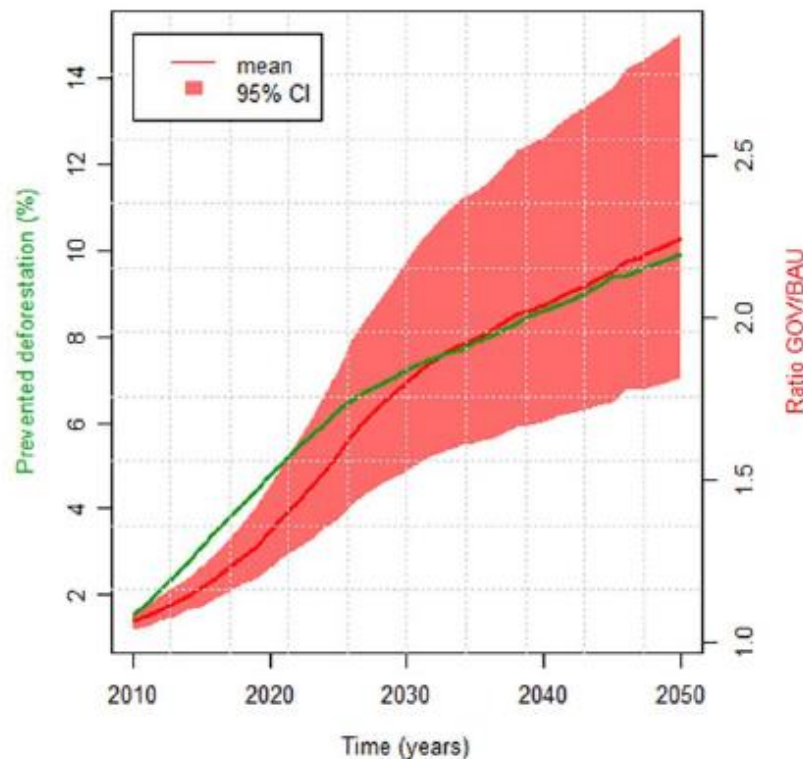
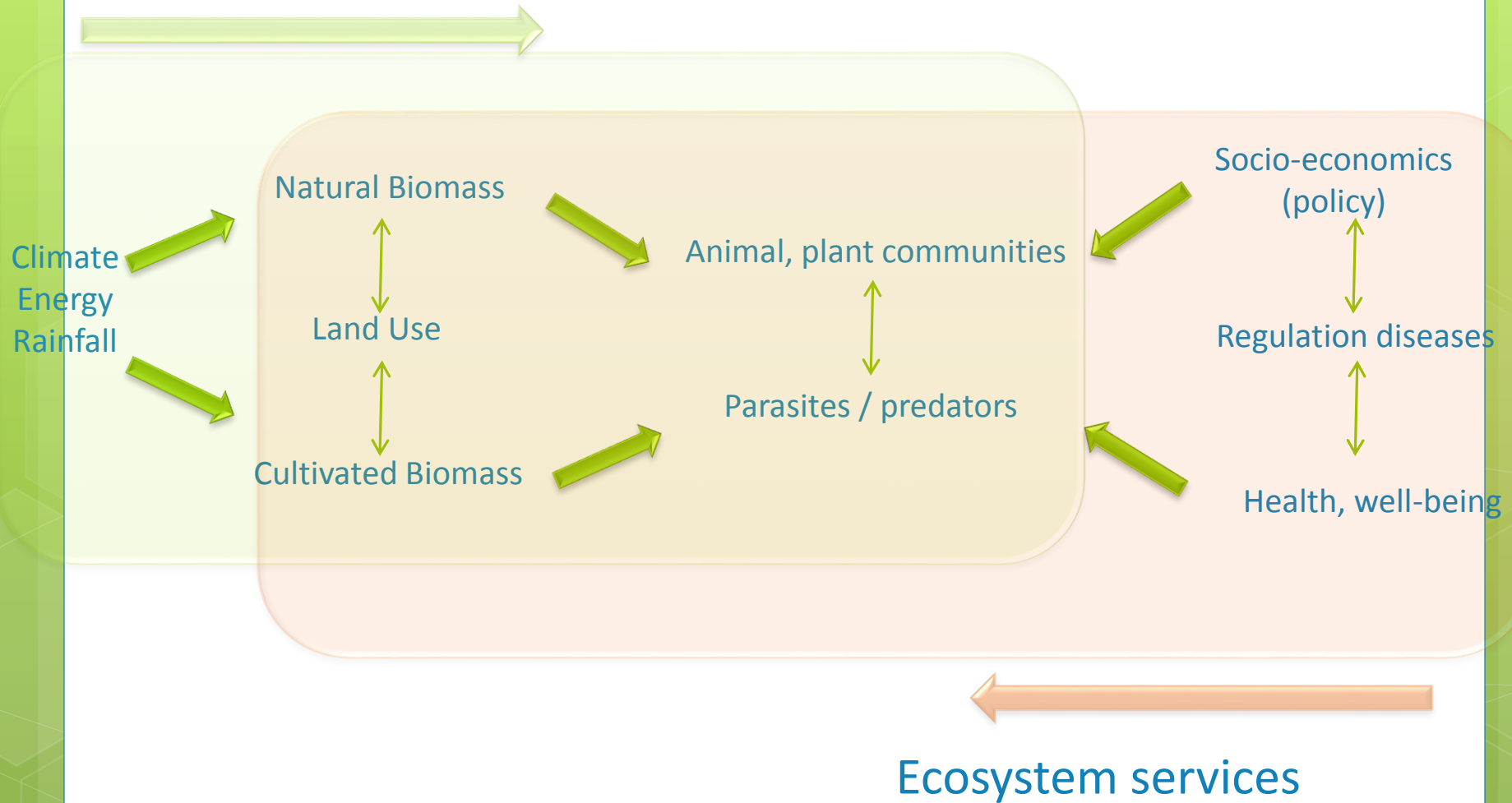


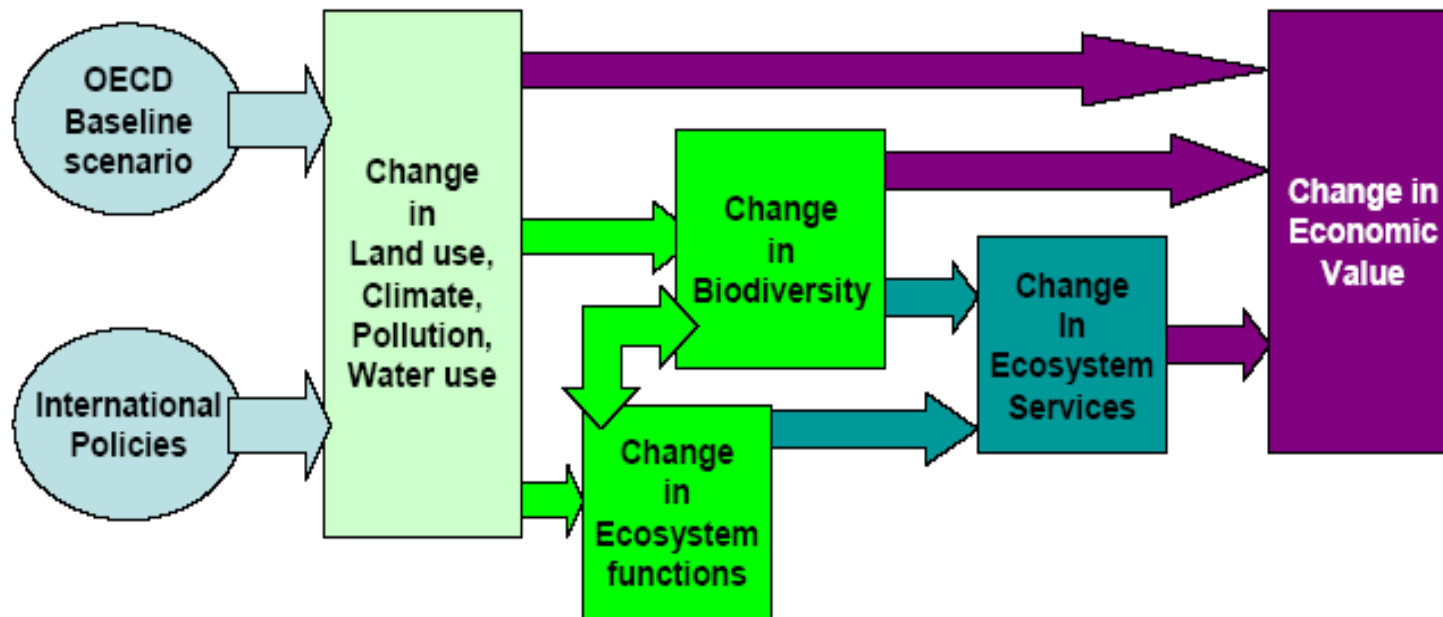
Figure 4. Malaria incidence increase at urban health posts in the governance scenario is predicted to be a direct consequence of prevented deforestation. We depict the relationship between future prevented deforestation under the governance scenario (green line), and the ratio of the expected malaria incidence for each year and city under the governance (GOV) and business-as-usual (BAU) future LULC scenarios (red line) (i.e., $E(C_{ly}^{GOV})/E(C_{ly}^{BAU})$), averaged across all cities. The red polygon represents the 95% credible interval of the average ratio $E(C_{ly}^{GOV})/E(C_{ly}^{BAU})$.

Functions of Ecosystems



Le coût de l'inaction politique (TEEB)

- Comment évaluer des coûts /bénéfices pour la santé ?



6
Climate change
Global drivers

1
Land-use & land-cover
dynamics

3
Perception

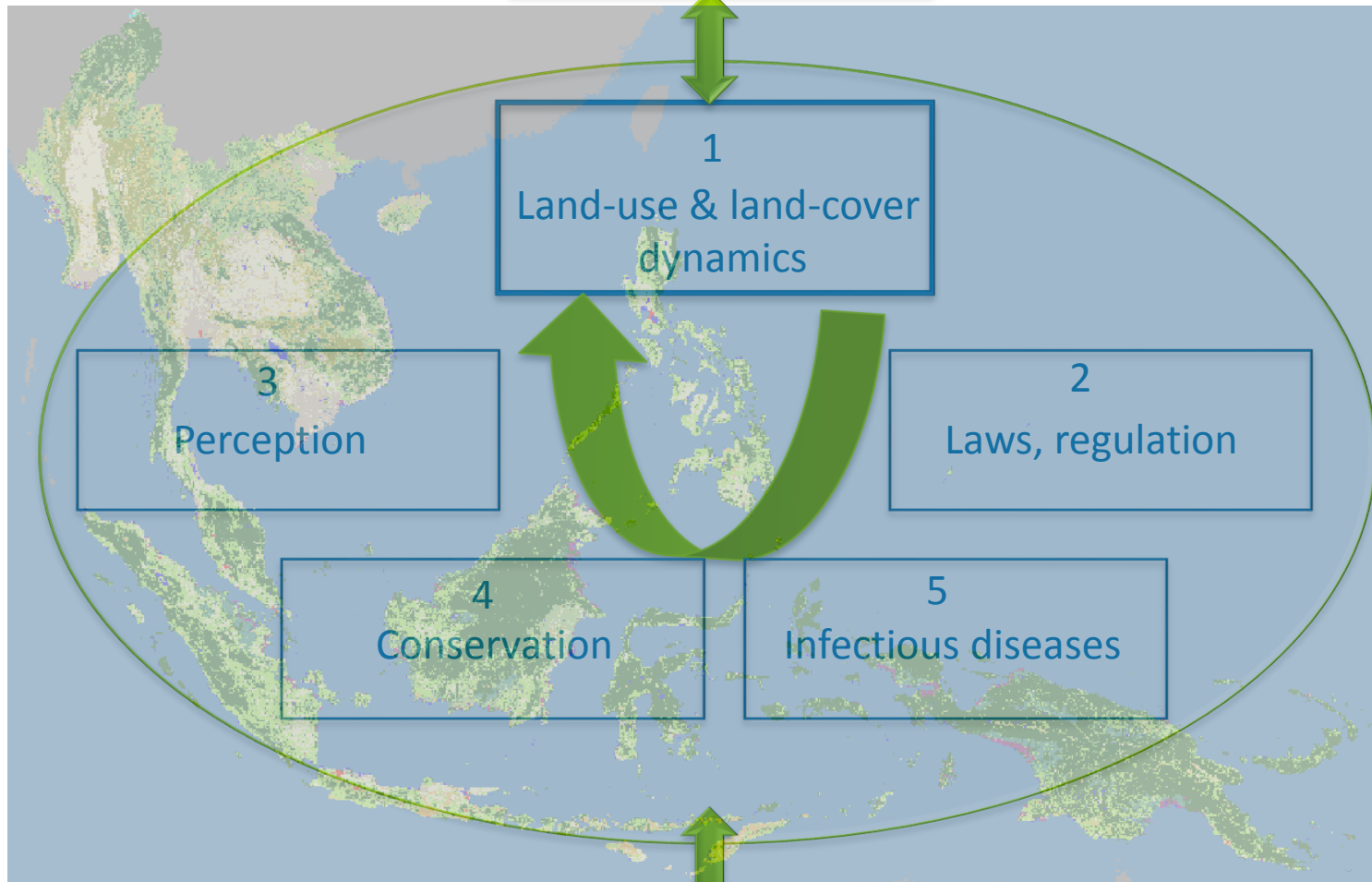
2
Laws, regulation

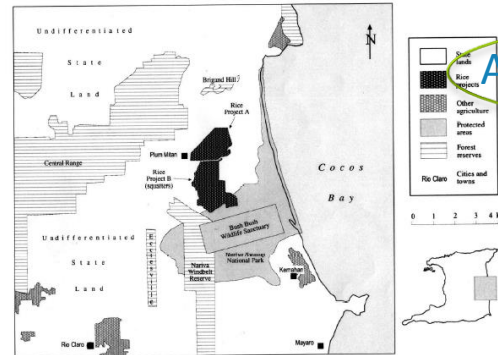
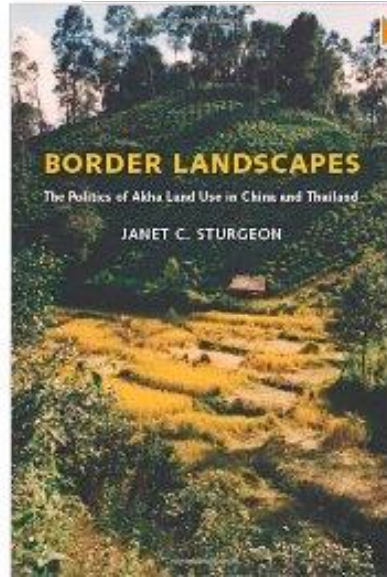
4
Conservation

5
Infectious diseases

7
ES regulation Health
scenarios

UnhealthSEA





Administrative boundaries

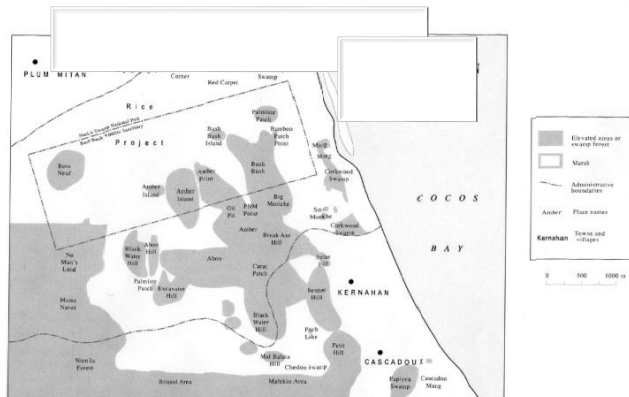
Law and regulation

Land covers

Epidemiological maps

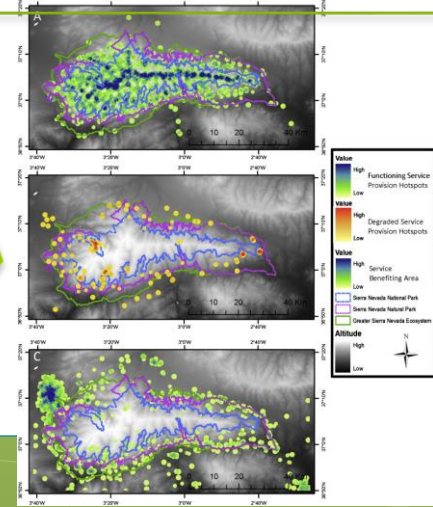
Conceptual maps

Landscape genetics



Participatory map

Towards mapping of ecosystem services



⇒ Integration de cartes
⇒ Identification des compromis