



Asia-Pacific Rural Development and Food Security Forum 2022

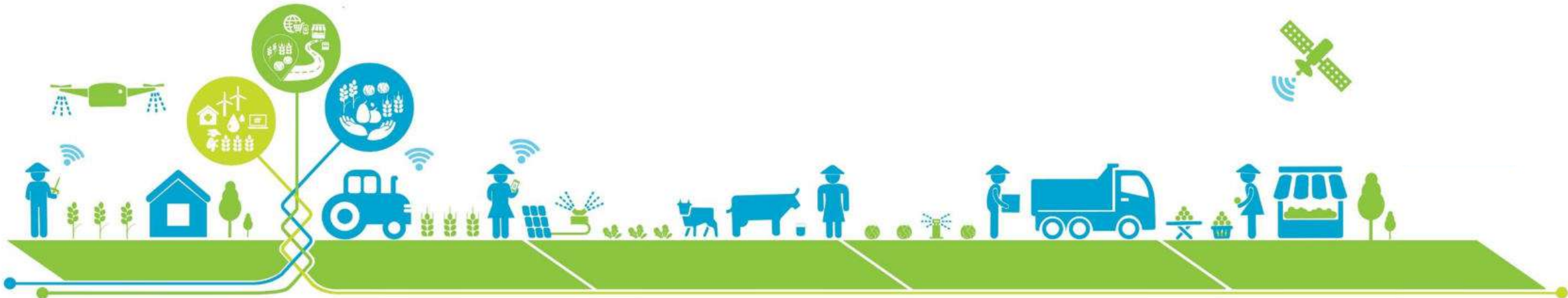
Battling Climate Change and Transforming Agri-food Systems

22-24 March 2022

Gretchen C. Daily

Professor, Stanford University

Faculty Director, The Natural Capital Project



- Being the keynote speaker, you have an element of flexibility in what you say to set the tone. As mentioned in the invitation, the session revolves around innovative approaches to green financing. Hence, the build-up could revolve around the importance of nature and biodiversity, its linkages to climate change (Stockholm +50 chapter1), importance of environmental accounting and valuing nature, and how it could enable innovative financing approaches. This is, of course, only a suggestion and you may choose your topics to suit the session.
-
- The audience would comprise representatives from Multilateral Development Banks, governments of our Developing Member Countries, our private sector clients, civil society organizations, impact funds, commercial banks, and other private and public investors.
-
- You would have about 15 minutes for your keynote address

Nature as an Engine of Prosperity



Nature as an Engine of Prosperity



ADB as an Engine of Innovation
& Transformation

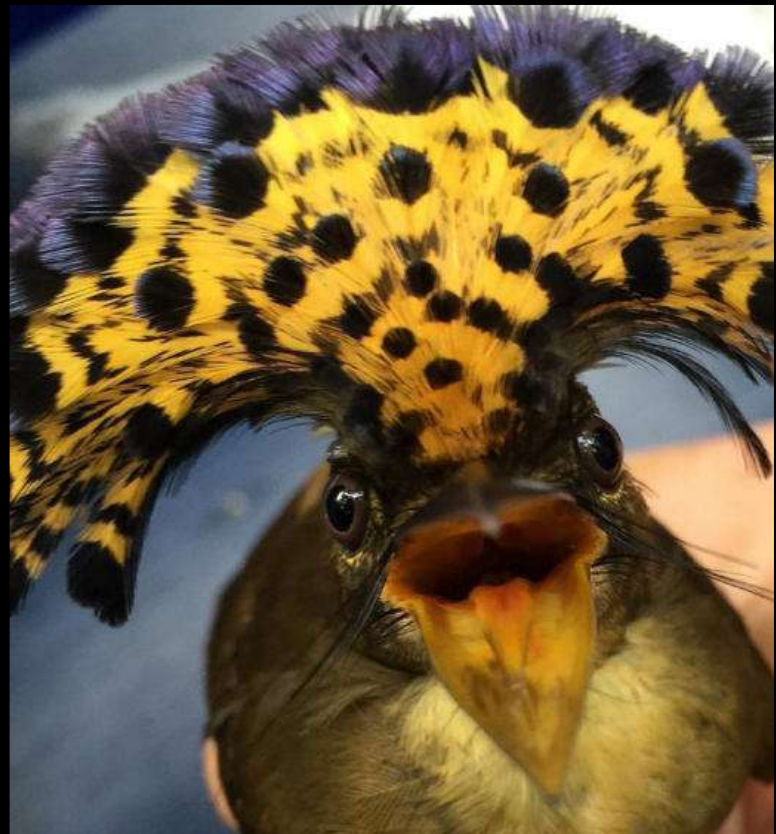
What is natural capital?



What is natural capital?




Earth's lands, waters, and biodiversity

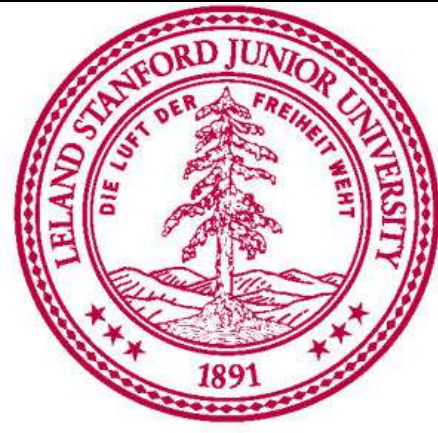






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- 1. How much and where to protect?**
 - 2. How to benefit people & nature?**
 - 3. How to move beyond GDP?**

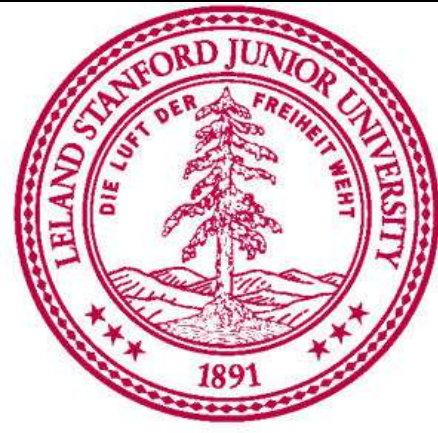
natural
capital
PROJECT



100 RESEARCH
INSTITUTIONS

300 IMPLEMENTING
INSTITUTIONS

natural
capital
PROJECT



100 RESEARCH
INSTITUTIONS

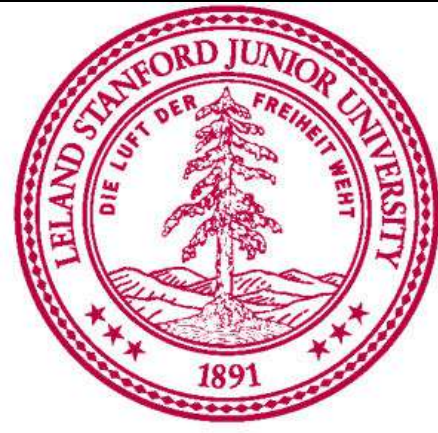
300 IMPLEMENTING
INSTITUTIONS

**POWERFUL
DEMONSTRATIONS**



KNOWLEDGE PLATFORM

natural
capital
PROJECT



100 RESEARCH
INSTITUTIONS

300 IMPLEMENTING
INSTITUTIONS

POWERFUL
PARTNERS

ADB

IDB

GEF

WB

UN

PRIVATE
SECTOR

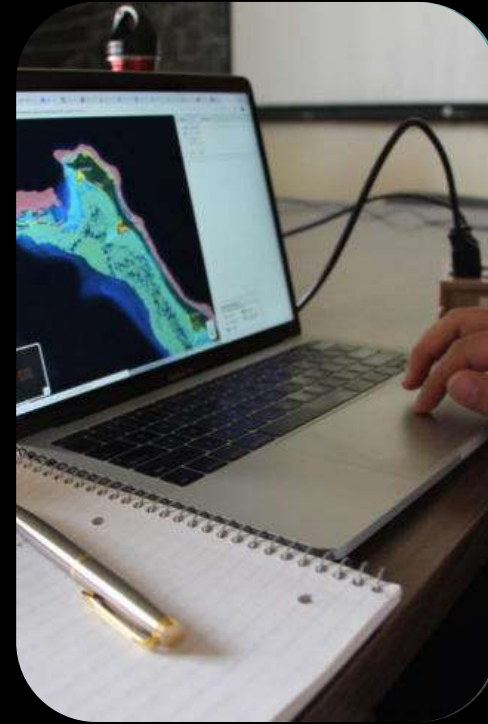
KNOWLEDGE PLATFORM



**ENGAGED
SCIENCE**



TECHNOLOGY



DECISIONS



**STEWARDSHIP
& WELL-BEING**



Coastal
Protection



Clean Water
& Energy



Climate
Security

InVEST

integrated valuation of
ecosystem services
and tradeoffs

Flood Control



Urban
Cooling



Food
Production



Health



Coastal
Protection



Clean Water
& Energy



Climate
Security

InVEST

**>185 countries
& first cities**

Flood Control



Urban
Cooling



Food
Production

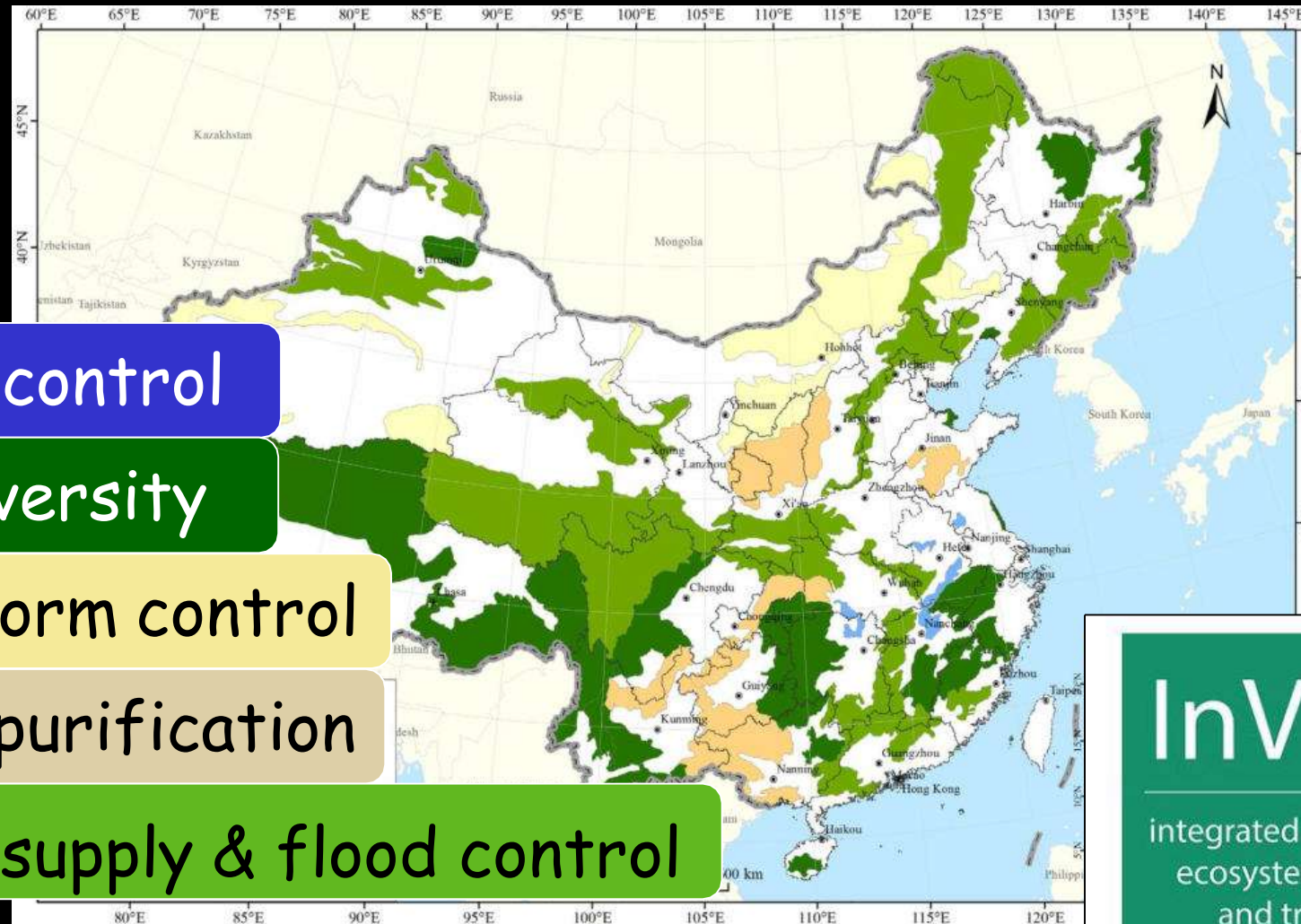


Health



Key Ecosystem Function Zones

51% of land area



flood control

biodiversity

sandstorm control

water purification

water supply & flood control

InVEST

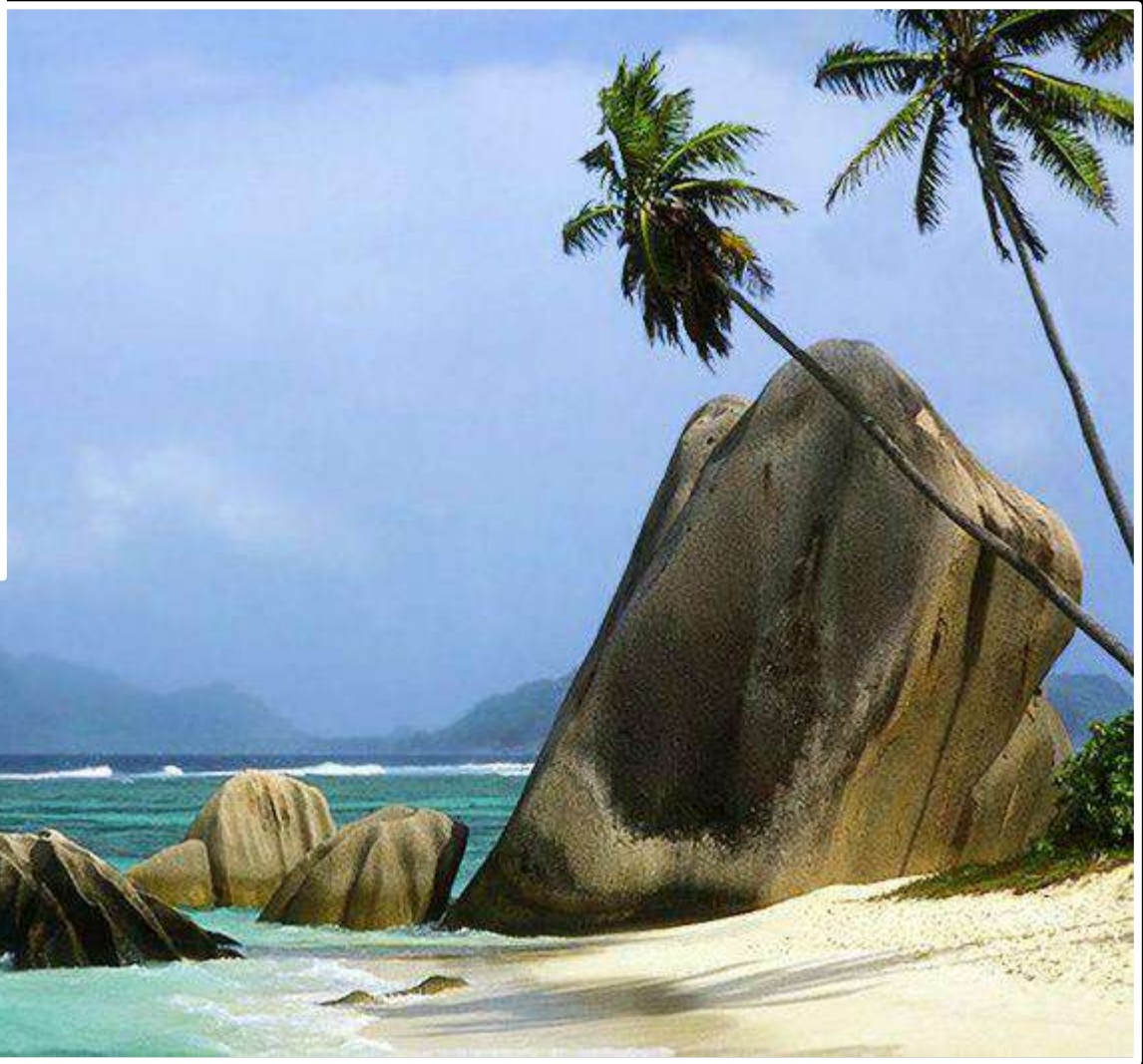
integrated valuation of
ecosystem services
and tradeoffs

Hainan Island ~ 1st Eco-Province

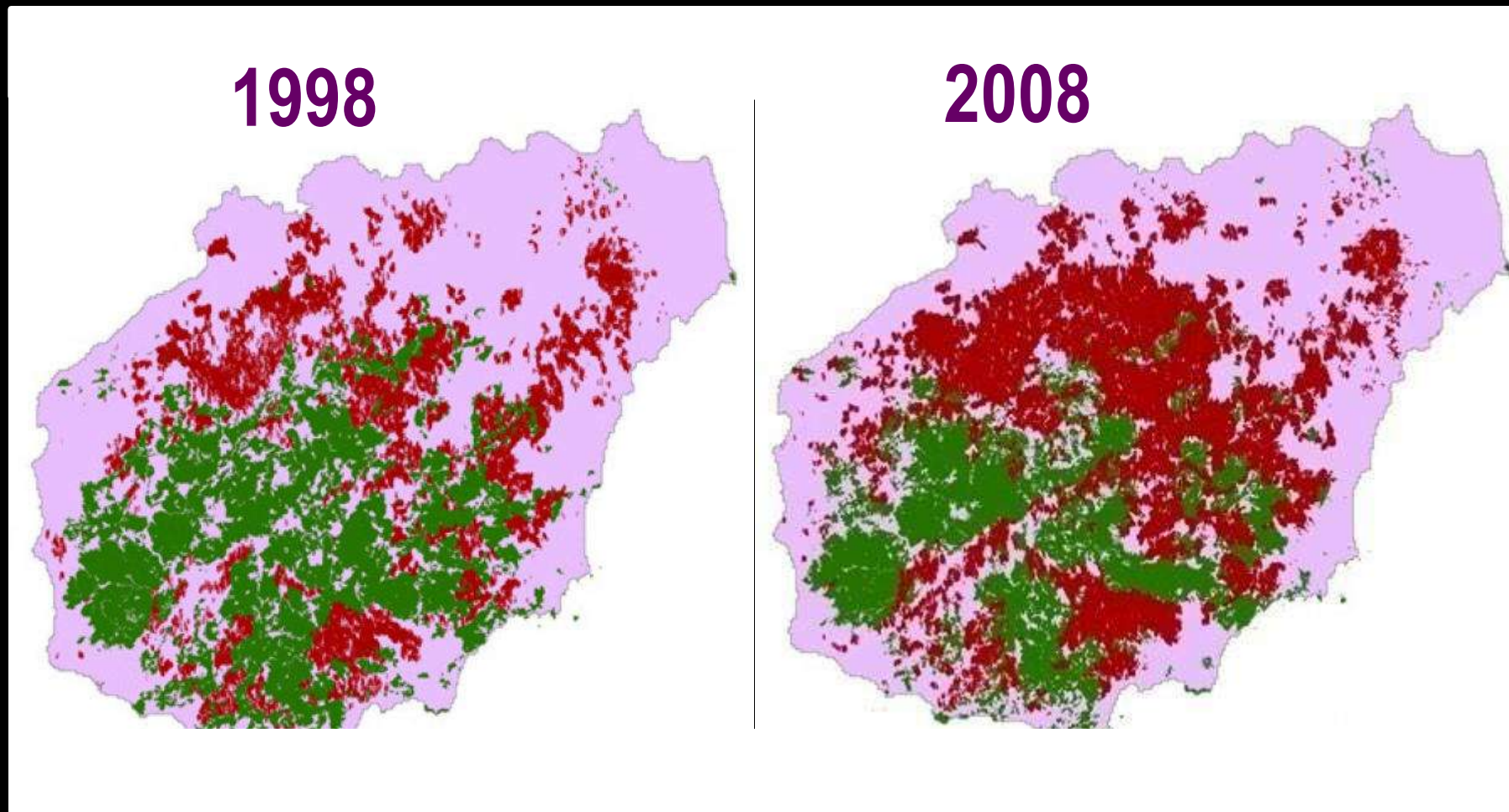


Priority ecoregion globally
1998-2008: 2x rubber area
2010: USD 2B flood damage





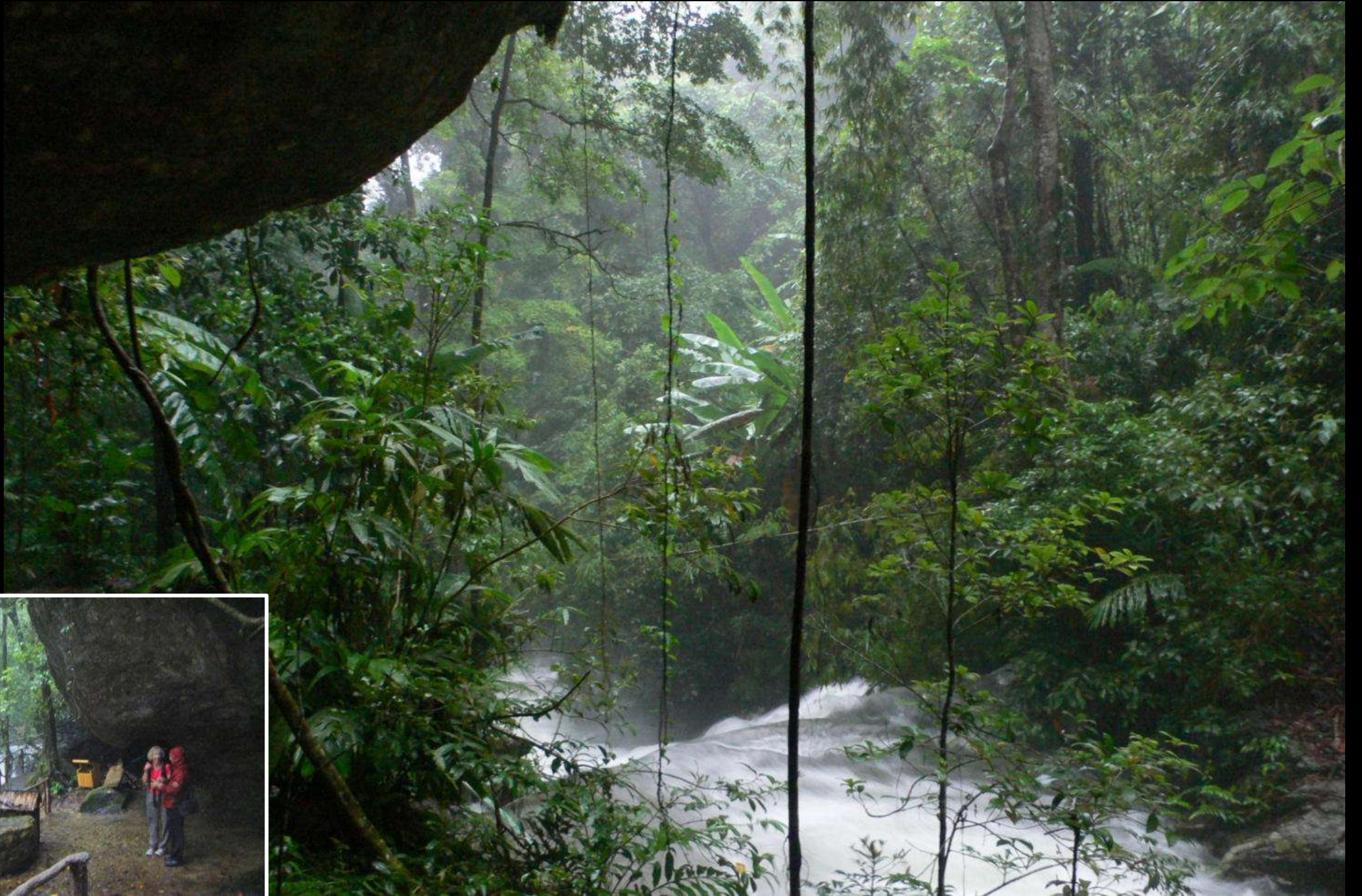
Rubber Expansion on Hainan Island



Natural forest



Rubber production

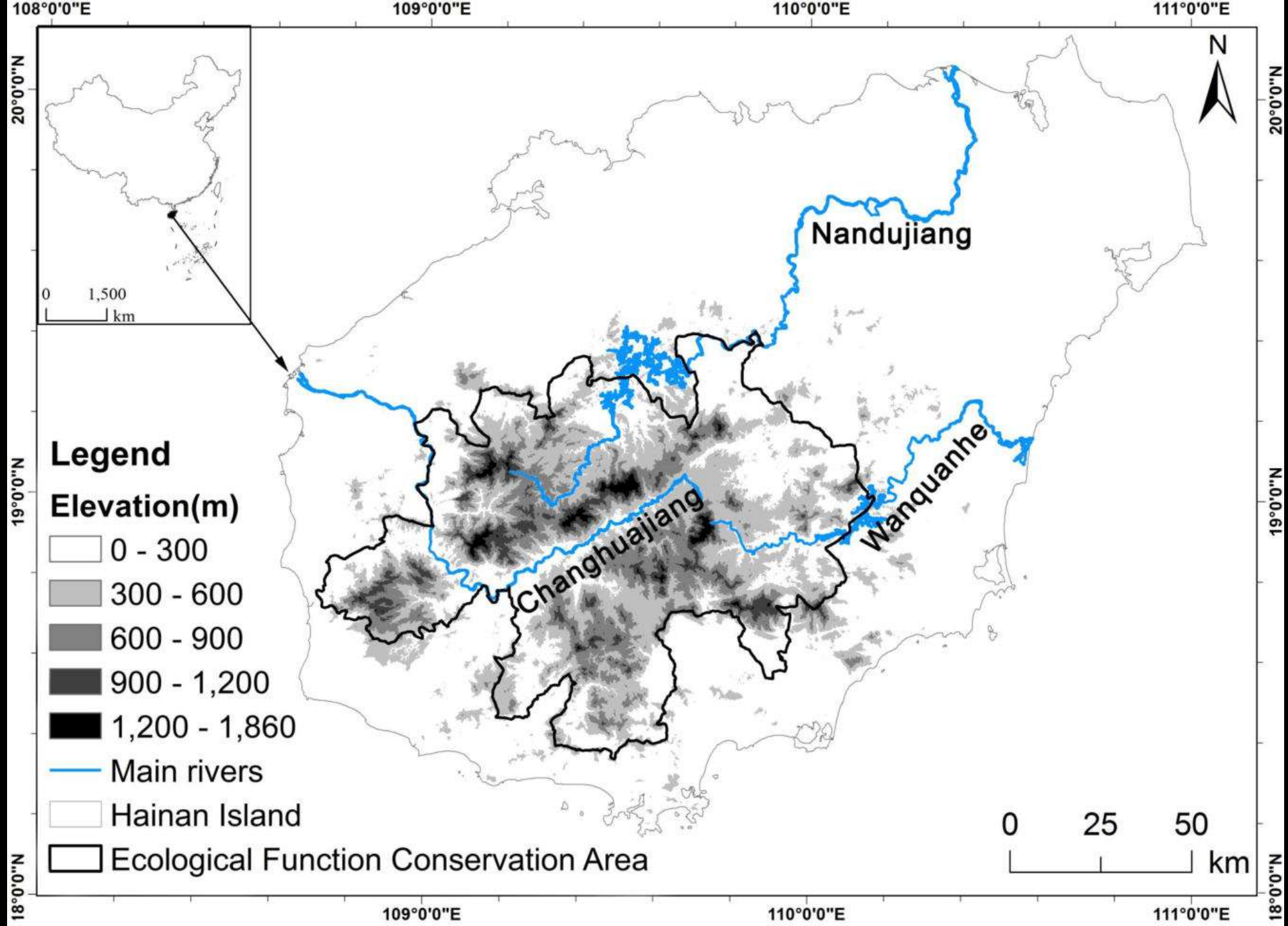




Oct 2010 - Worst flooding in 50 yrs

130,000 people evacuated

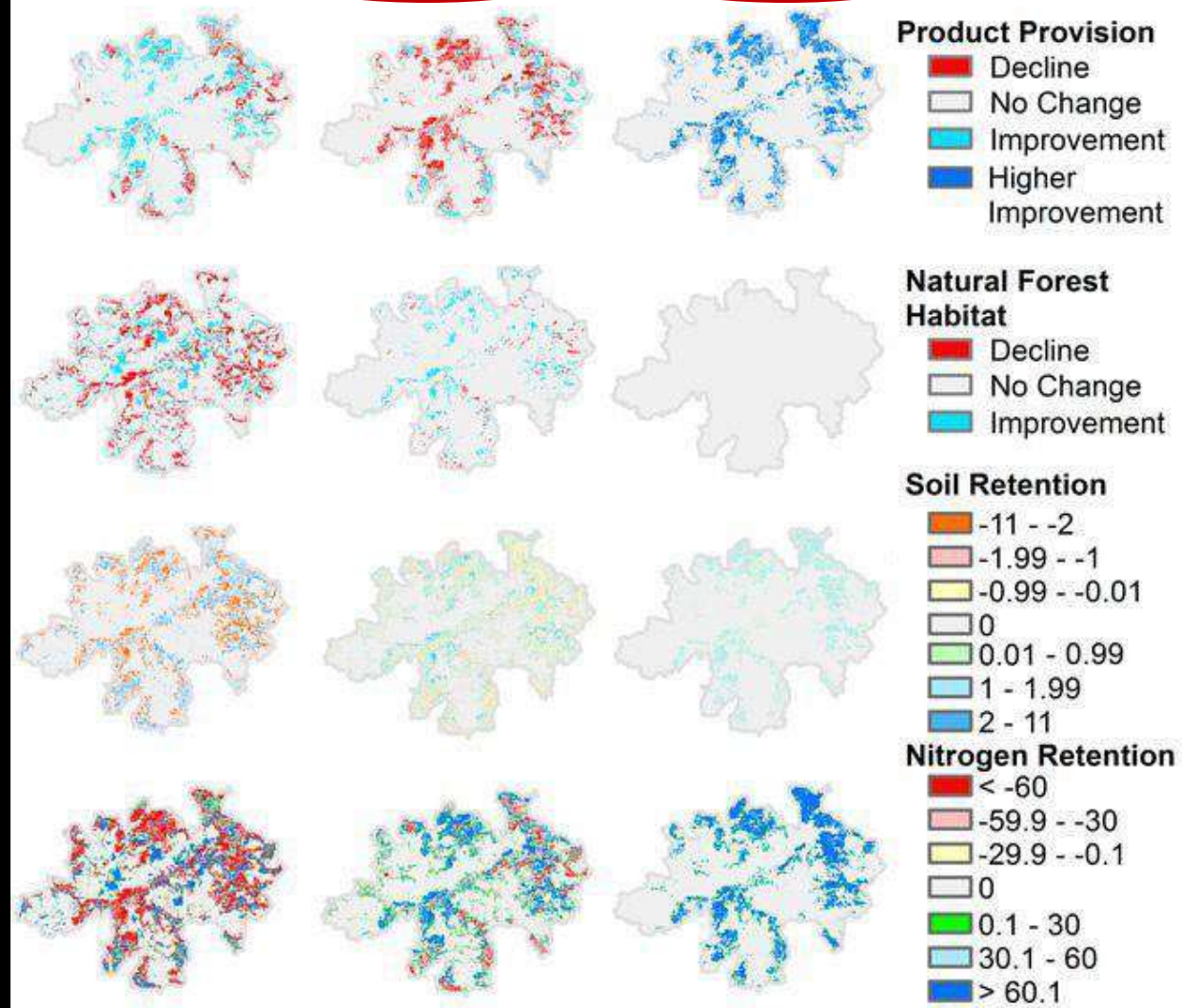
USD 2 billion in damage



A 1998-2017
Actual LULC
Change

B Difference between
actual LULC in 2017 and
No rubber Plantation
Expansion Scenario

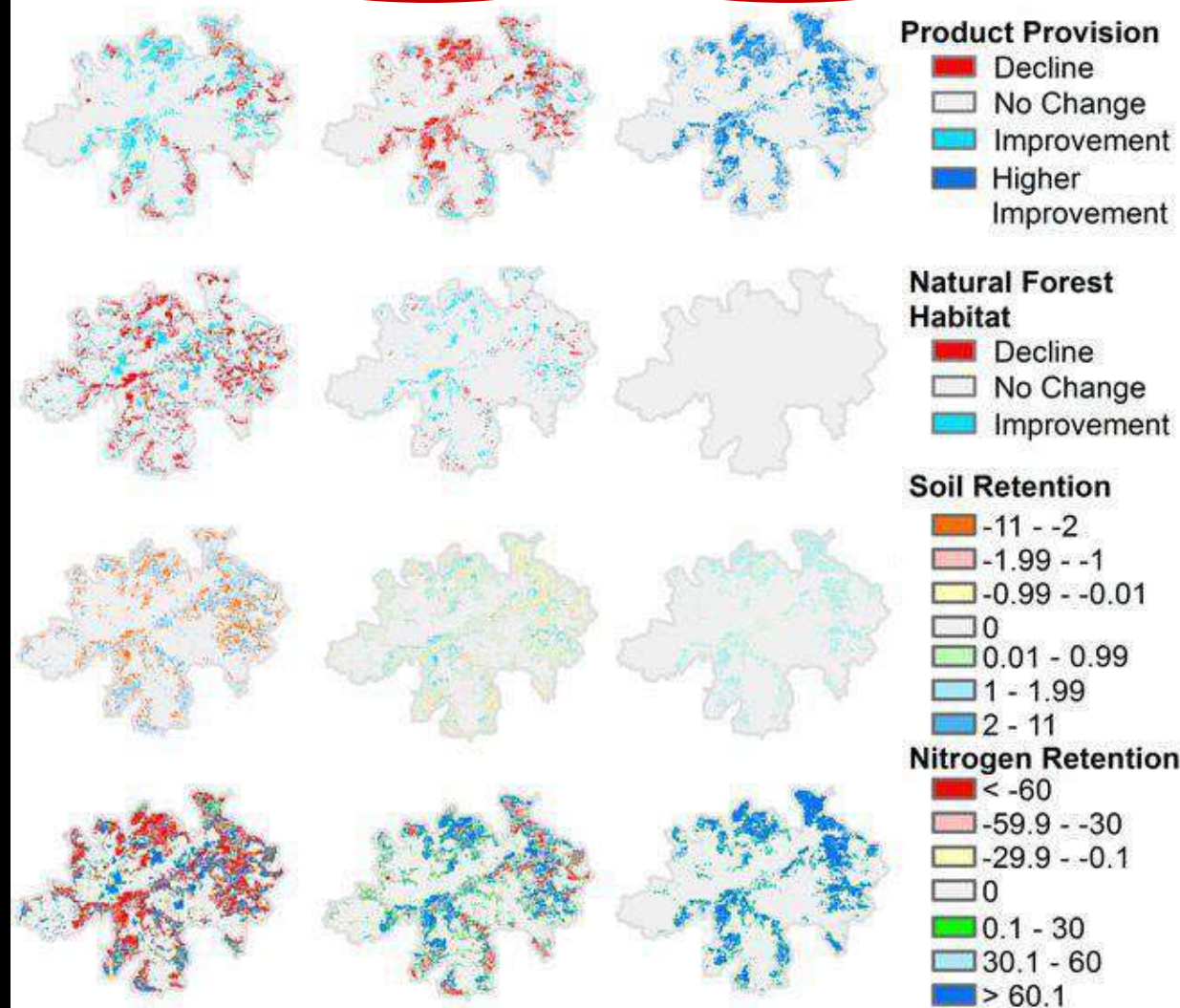
C Difference between
actual LULC in 2017 and
Intercropped Rubber
Plantation Scenario



A 1998-2017 Actual LULC Change

B Difference between actual LULC in 2017 and No rubber Plantation Expansion Scenario

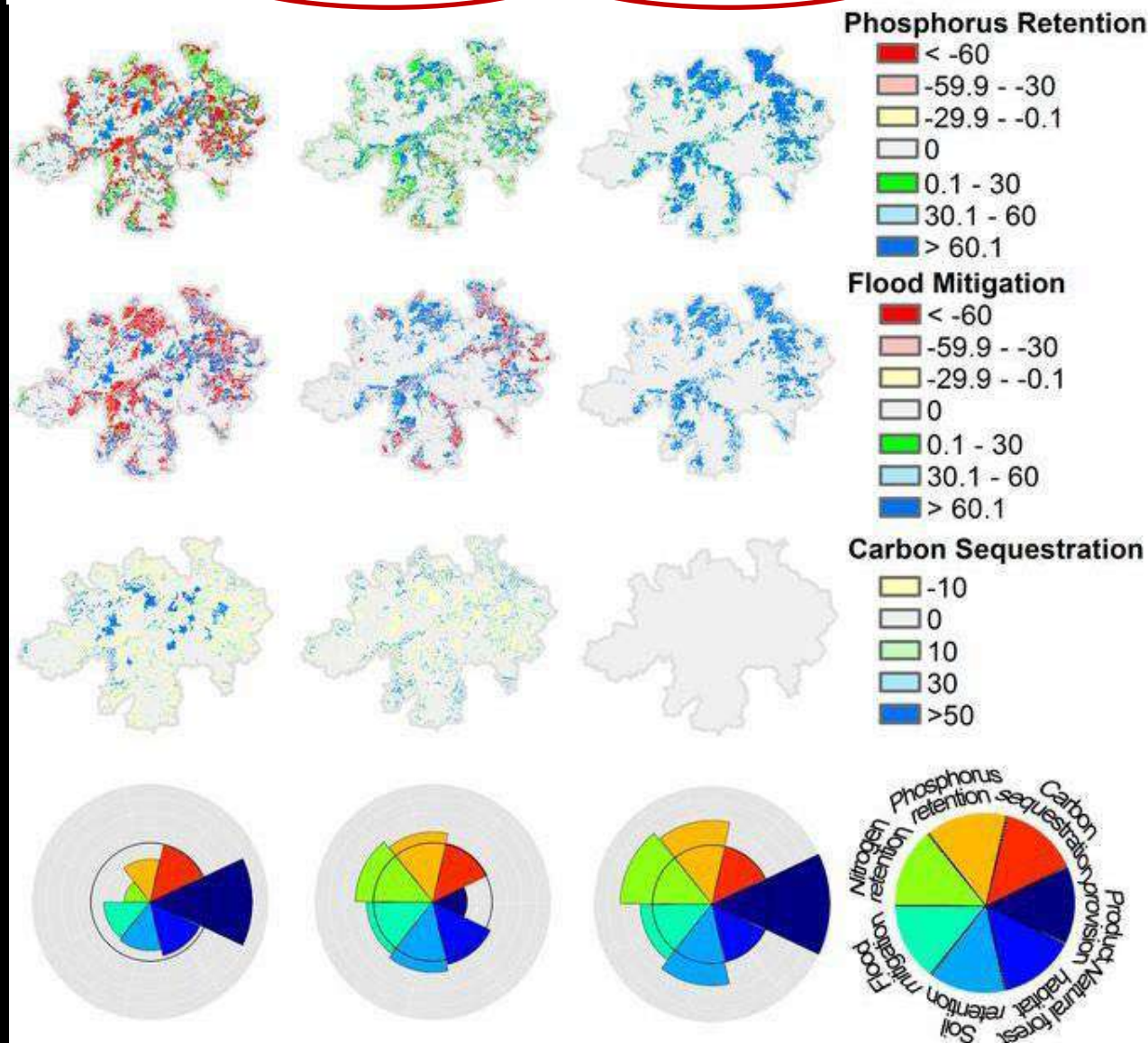
C Difference between actual LULC in 2017 and Intercropped Rubber Plantation Scenario



A 1998-2017 Actual LULC Change

B Difference between actual LULC in 2017 and No rubber Plantation Expansion Scenario

C Difference between actual LULC in 2017 and Intercropped Rubber Plantation Scenario



**Improved Production + Other ES +
Doubled Income**

(Zheng et al 2019 *PNAS*)

National Ecological Development Strategy

(Zheng et al 2019 *PNAS*)



Background

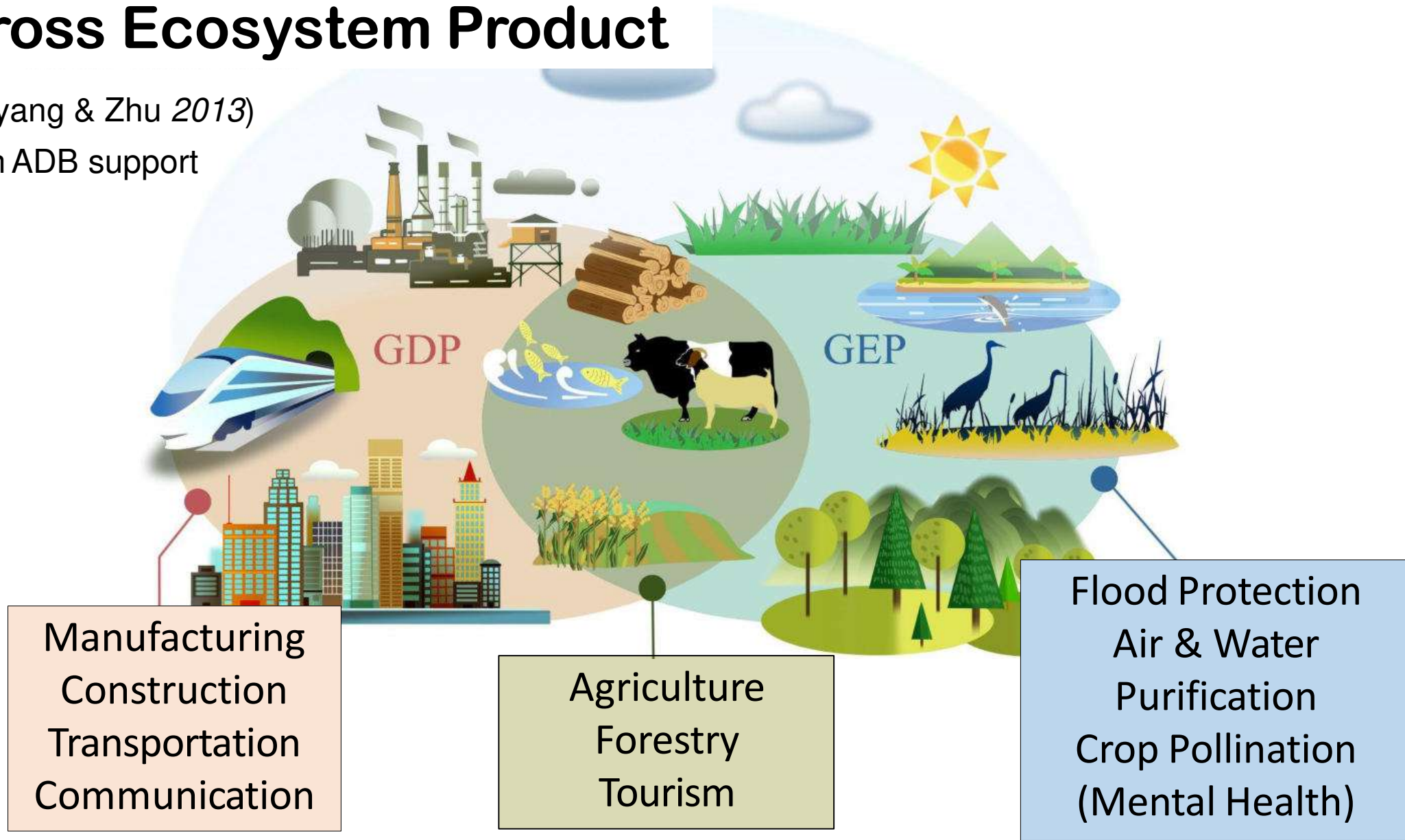
To harmonize nature and people in China

- ✧ President Xi put forward the vision “**Clear water and green mountains are gold and silver mountains**”, to give prominence to nature’s value for people
- ✧ This involves:
 1. **Integration of ecological benefits** into criteria for performance evaluation of local governments
 2. Establishment of **eco-compensation policy & investment mechanisms** based on ecosystem services
 3. Establishment of a **natural capital accounting system** to support 1 & 2

Gross Ecosystem Product

(Ouyang & Zhu 2013)

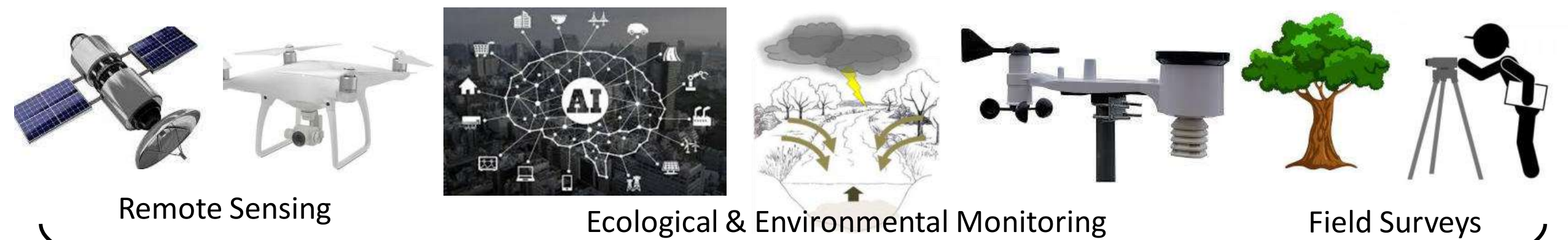
With ADB support





GEP accounting framework





Step 1:

Data collection



InVEST

Step 2:

Natural Capital Accounting
Valuation of ecosystem goods and services

Where?



Step 3:

Beneficiaries: local, regional, global

To whom?



Step 4:

GEP: Nature's contribution to people

How much?

GEP Adoption Globally



Colombia

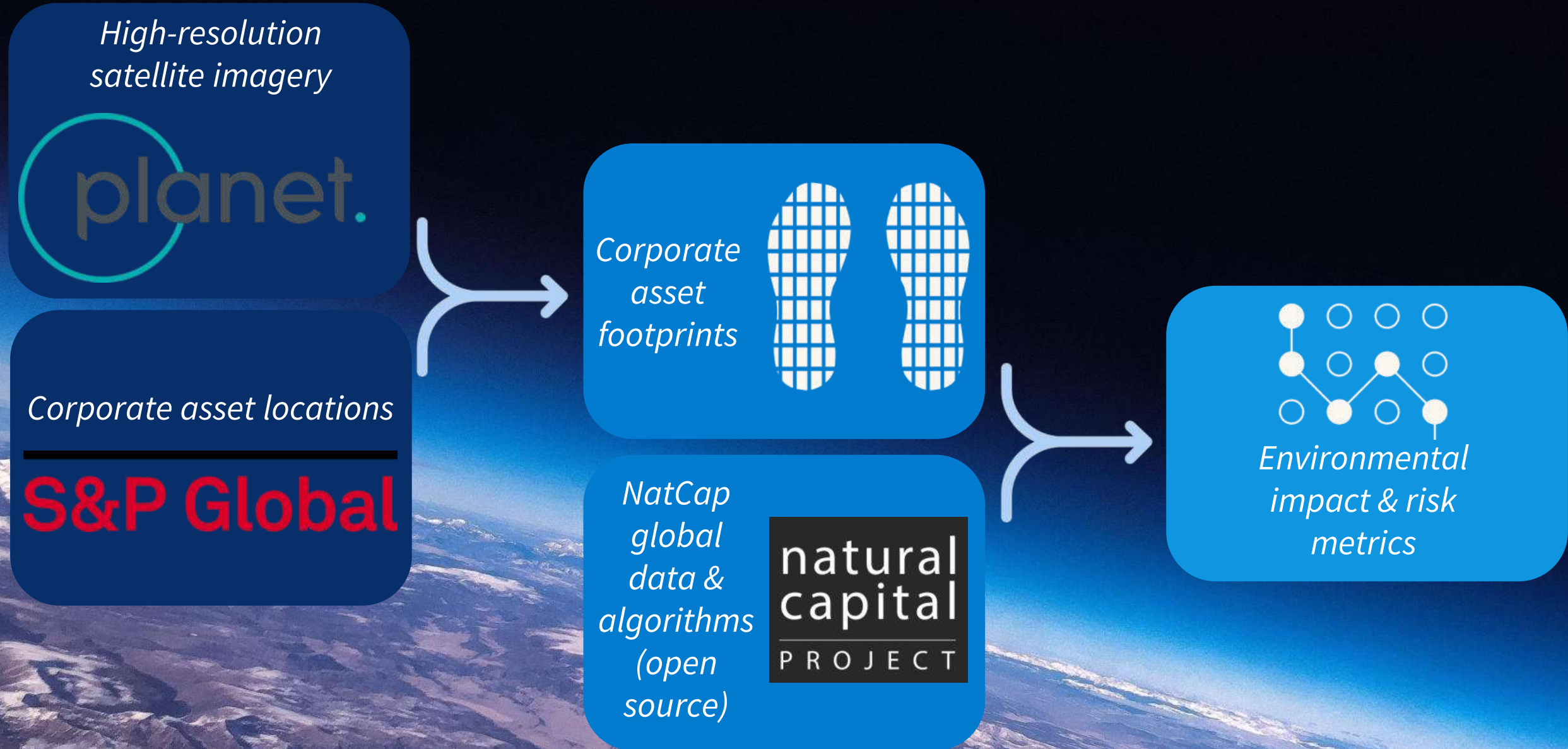
Sri Lanka



Mongolia

**More countries
with support
from ADB,
IDB, ... GEF**

Private Financial Institutions: Pipeline in development



Financial Sector Leadership

CAPITALIZE ON MOMENTUM FOR MAINSTREAMING TARGET INVESTMENTS

- Using new data & science in compelling demonstrations
- Integrating across multiple biophysical, economic & social benefits

SCALE & ACCELERATE REGENERATION



Thank You!

#RDFS2022

