Presentation given at the Southeast Asia Katoomba meeting

Katoomba XVII Taking the Lead: Payments for Ecosystem Services in Southeast Asia

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Dr Klaus Schmitt
Chief Technical Advisor
GTZ CZM Project, Soc Trang, Vietnam

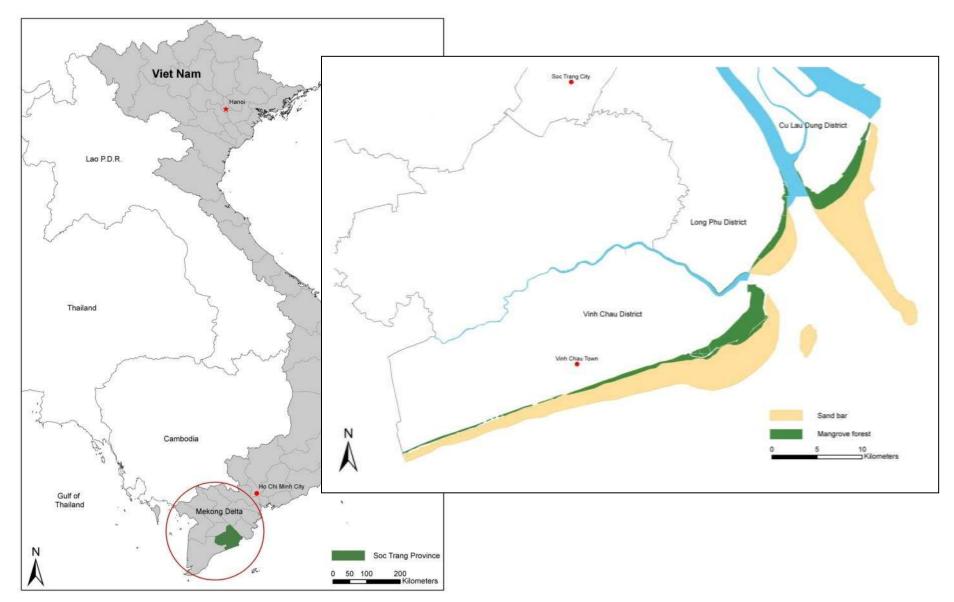




Effective Mangrove Conservation through Co-management

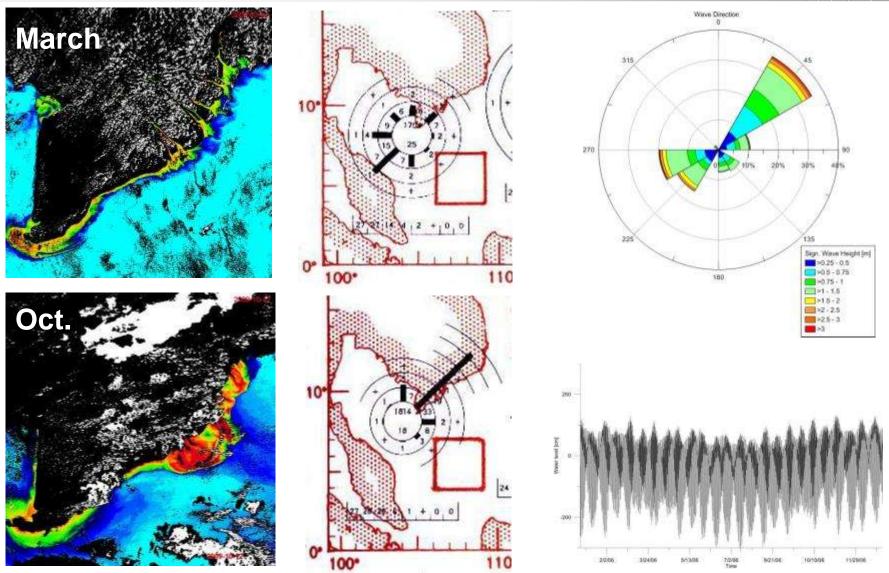






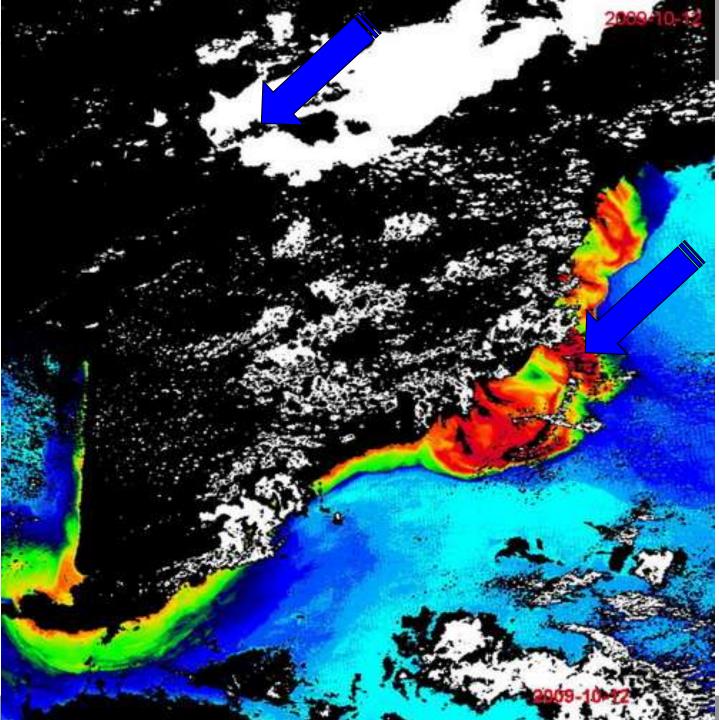






Remote sensing data from MODIS-Sensor with a 250m resolution prepared by EOMAP, Gilching, Germany

gtz

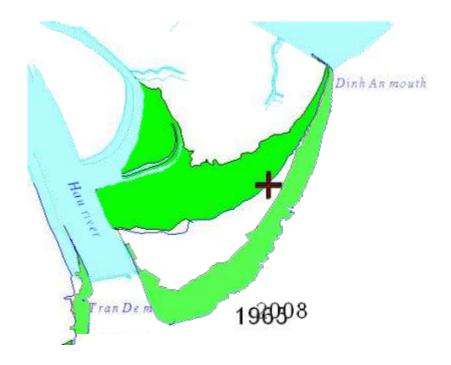








- Dynamic process of accretion and erosion
- Narrow belt of mangrove forest along most of the coast line



20 km² accretion in 43 years



- GE image April 2007
- GPS track log 17 months later







Aim: protect and sustainably use the coastal wetlands for the benefit of the local population

Effective mangrove management and protection with emphasis on resilience to climate change

Lessons learnt and test new approaches

Mangrove management

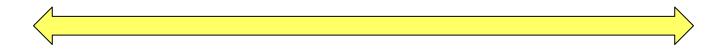
Mangrove rehabilitation

Risk spreading strategies (uncertainties)





Test new approaches to MANGROVE MANAGEMENT



State management	Co-management		Community management
control by government agency	shared control government agency and stakeholders		community control
	negotiating specific agreements	sharing authority and responsibility in a formal way	transferring authority and responsibility to communities





Co-management

 The co-management process must follow four steps and apply four principles

4 Steps

Agreement with 6W

Who Where

What When

hoW hoW much

4 Principles

ICAM

Participation

Zonation

Monitoring

PES

















Co-management first experiences

- Co-management is an effective way of maintaining and enhancing the protection function of the mangrove forest belt and at the same time providing livelihood for local communities
- Involving local communities in mangrove rehabilitation using new approaches further enhances the protection function and other ecosystem services provided by mangrove forests
- Benefit sharing/PES contributes to sustainability and livelihood improvement





Test new approaches for MANGROVE PLANTING

- Lessons learnt: species, site, time, technique (TOOL BOX)
- Mimic nature: imitate the successful regeneration of nature















Erosion protection (ICAM)

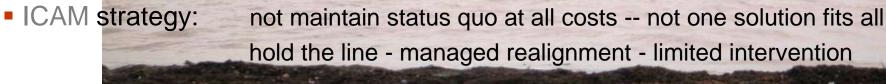
HIGH WATER LEVEL (HWL) 1.50

NORMAL SEA WATER LEVEL 6.00

8 1.1.5

8 1.1.5

- Integrated planning
- Dyke
- Breakwaters based on numerical
- Mangrove rehabilitation









Innovative mechanisms for marine and coastal conservation

- Co-management
- PES (sandbanks/clams → mangroves)
- Mangrove rehabilitation (tool box, mimic nature, breakwaters)
- ICAM (not maintain status quo at all costs -- not one solution fits all)
- When looking at PES and carbon markets for mangroves the dynamic nature of the coastline and its effects on mangroves must be considered