



NINTH EXECUTIVE FOREST POLICY COURSE

**SUSTAINABLE DEVELOPMENT GOALS, CLIMATE CHANGE
AND THE FUTURE OF FORESTS IN THE ASIA-PACIFIC**

24 May - 2 June 2016, Yogyakarta, Indonesia

**ECONOMIC ASPECTS OF
ENVIRONMENTAL SERVICES:
OPPORTUNITIES AND CHALLENGES OF PES**

CTS Nair



BACKGROUND

- ❑ Increased awareness about ecological services like watershed protection, carbon sequestration, biodiversity conservation, combating desertification and provision of amenity values.
- ❑ Forests are becoming more valuable for their environmental services than for their ability to produce wood and other products.
- ❑ However enhancing investments to produce ecological services remain a challenge and there is an effort to provide it through markets. PES has been attempted in several countries.
- ❑ It is in this context that we need to have a closer look at PES focusing on its effectiveness in managing land to provide ecological services.



PURPOSE OF THE SESSION

- Provide an overview of the principles underlying the system of payment for environmental services (PES) .
- Discuss the experience in enhancing resources for forest management through payment for ecological services.
- Outline the opportunities and challenges for PES in contributing to sustainable forest management and their implications on land use/ forest policies.



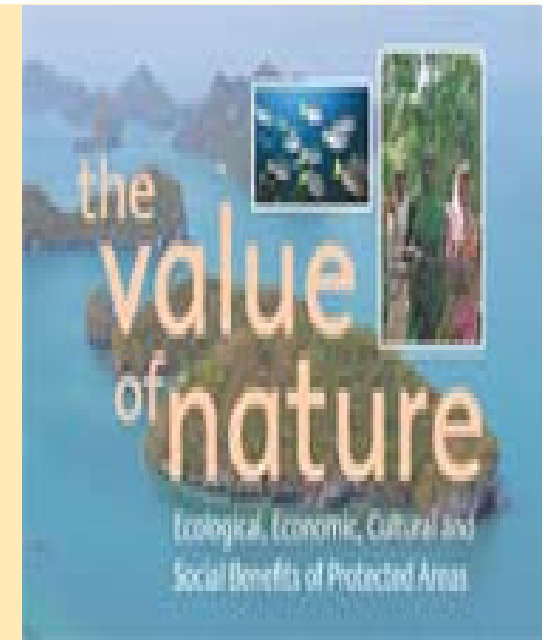
TWO KEY ISSUES

- ❑ How do we ensure that society pays increased attention to the role of forests in the provision of ecological services
 - ❖ Assess the value of ecological services provided by forests.
- ❑ How can we translate this knowledge into actual financial transfers in support of sustainable management.
 - ❖ Develop systems of payment so that forest owners have incentives to manage forests for environmental services.



PUTTING A VALUE TO NATURE

- Two opposing schools as regards putting a price tag to nature (including forests).
 - ❖ Those who argue that if we don't put a price tag, society will not understand the importance of nature (including forests) and hence there will be no commitment to conserve nature.
 - ❖ Those who point out that putting a price tag is unethical.



STEPS IN VALUING FORESTS

- Estimation of the quantity of products and services obtained/ obtainable from forests; and
- Assessment of their value to society.



STEPS IN VALUING FORESTS

1. Estimating the quantity of wood and other products that could be obtained sustainably.
2. Measurement of the environmental services – watershed protection, biodiversity conservation, carbon sequestration, prevention of land degradation and amenity services.
3. Identification of mutually exclusive goods and services.
4. Putting a price tag to services that have no market prices.



PAYMENT FOR ENVIRONMENTAL SERVICES

1. Systems for PES are created through:

- ❖ Policy interventions (Government directives or legislation) mandating payments
- ❖ True markets emerging through direct interaction between sellers and buyers

2. Invariably in most cases policy interventions – in varying degrees – have been responsible for creation of markets for environmental services.



PAYMENT FOR ENVIRONMENTAL SERVICES

□ Environmental services for which PES systems have been attempted:

- ❖ Watershed protection: Largely local market
- ❖ Carbon sequestration: Global/ national market
- ❖ Amenity values: Local, national or global
- ❖ Biodiversity conservation: Future markets

There have been a number of PES initiatives with varying outcomes. PES tends to be relatively easy if there is a direct link between providers and users of environmental services and if the services can be quantified.



CARBON PRICING INSTRUMENTS

Carbon pricing in numbers

39
NATIONAL
JURISDICTIONS

23
SUBNATIONAL
JURISDICTIONS

with carbon pricing instruments

38
CARBON PRICING
INSTRUMENTS

already implemented or
scheduled for implementation

90% ↑
INCREASE

in number of instruments
with respect to January 1, 2012

COVERING ANNUAL GLOBAL GHG EMISSIONS OF

~12% = 7 GtCO₂e

8%
ETSs

4%
CARBON
TAXES

3x ↑
INCREASE

over 2005-2015 in share
of global emissions covered

PRICES IN THE INSTRUMENTS IMPLEMENTED

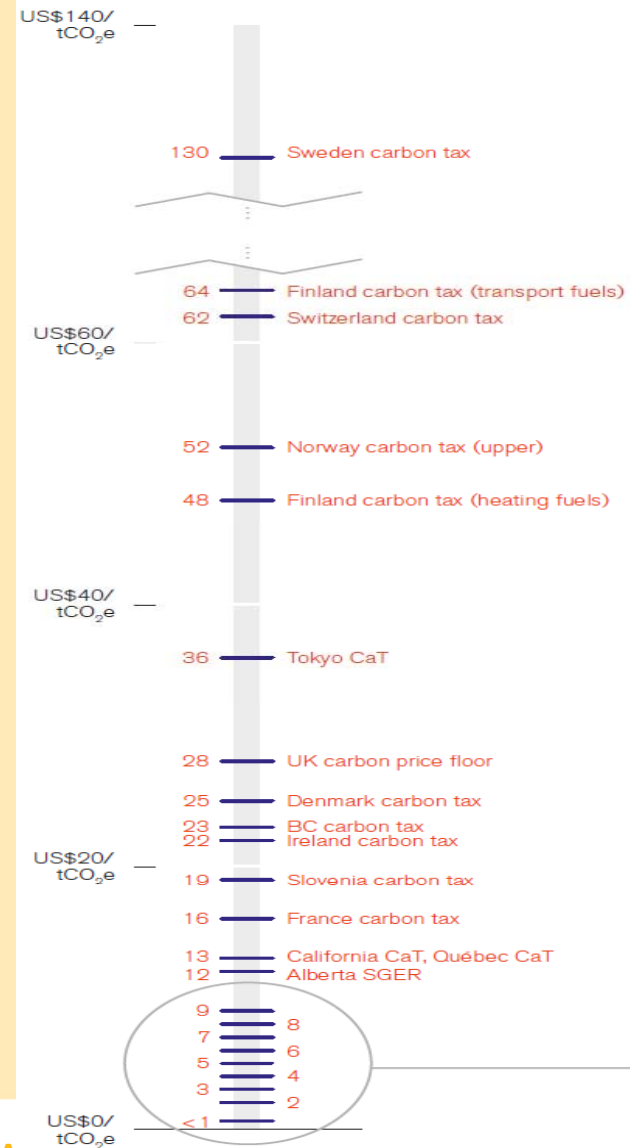
US\$ 1-130/tCO₂e

85% of emissions covered are priced at <US\$10/tCO₂e

ANNUAL VALUE OF THE INSTRUMENTS IMPLEMENTED IS
just under

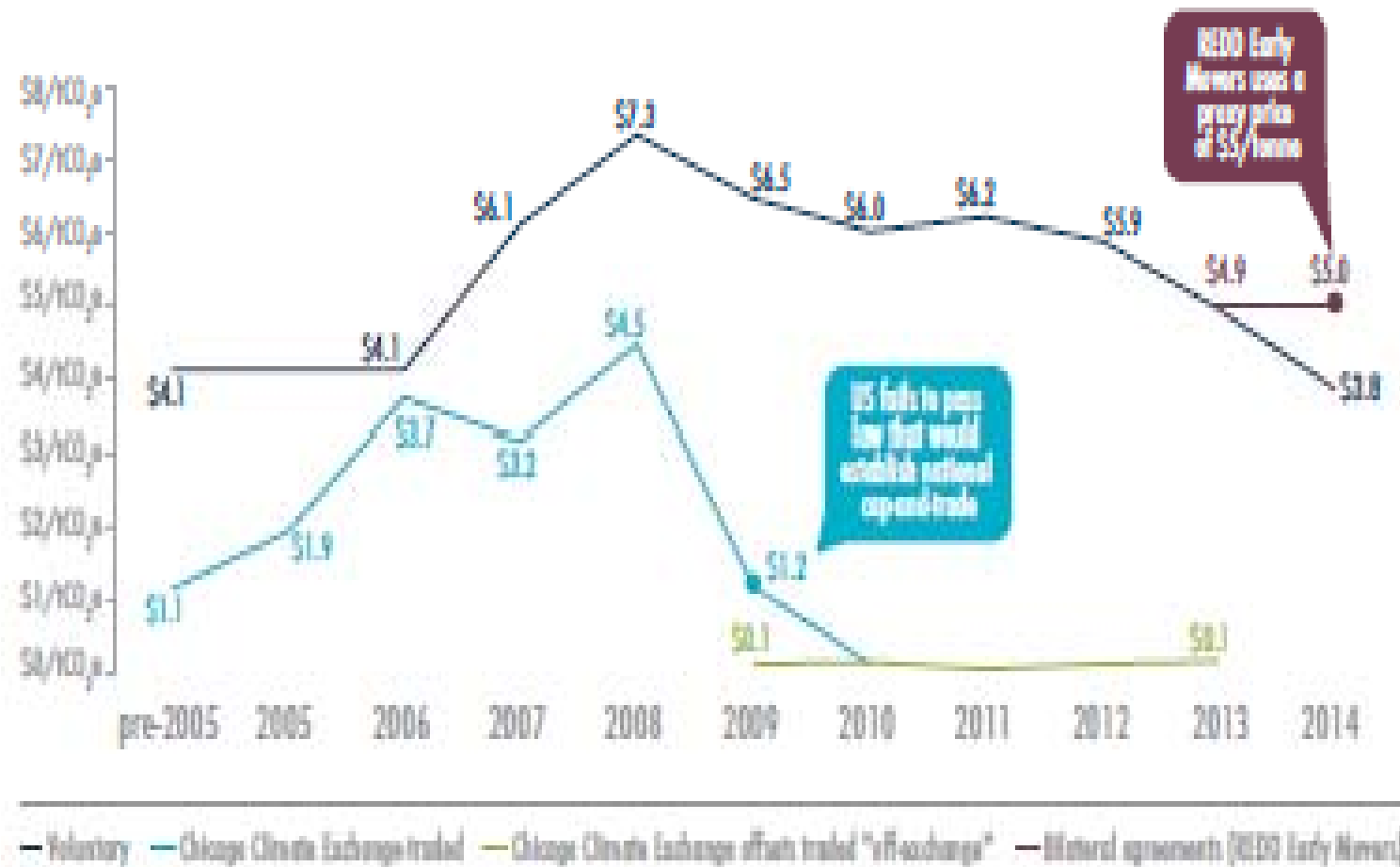
US\$ 50 billion¹²

Figure 6 Prices in existing carbon pricing instruments



CARBON PRICES

Figure 2: Historical Market-Wide Average Price



Notes: Based on 831.2 MtCO₂e in transacted volume over time.

Source: Forest Trends' Ecosystem Marketplace, State of the Voluntary Carbon Markets 2015.



CONTRIBUTING TO SUSTAINABLE DEVELOPMENT GOALS, CLIMATE CHANGE

AND THE FUTURE OF FORESTS IN THE ASIA-PACIFIC

24 May - 2 June 2016, Yogyakarta, Indonesia

CHALLENGES IN THE DEVELOPMENT OF PES

- ❑ Development of ecosystem services markets are related to the state of social and economic development. Even in most developed economies PES markets remain undeveloped.

- ❑ Main challenges
 - ❖ Policy, legal and institutional issues
 - ❖ Technical problems
 - ❖ Economic aspects: PES has high transaction costs which could far exceed the benefits.
 - ❖ Potential for aggravating poverty
 - ❖ Potential for accentuation of forest related conflicts



CHALLENGES IN THE DEVELOPMENT OF PES

- ❑ Overall PES schemes are not having the desired impacts in the vast majority of tropical forests that are vulnerable to deforestation and degradation and they are benefitting only a few of the many millions of forest peoples and their owners and managers.
- ❑ Currently there are more sellers than buyers of the environmental services provided by tropical forests. There is a need to increase demand, develop formal markets with the engagement of private sector and increase the availability of secure sustainable financing by creating an enabling environment.
- ❑ Indigenous people, local communities and private forest owners should be able to participate in the schemes to pay for tropical forest environmental services as entrepreneurs rather than simply as passive receivers of compensation.
- ❑ PES schemes should use inclusive processes and sustainable practices, be transparent and accountable and have robust and transparent institutional frameworks and enabling policies.

TAKE HOME MESSAGES

- ❑ **Though still in the early stages of development, the outcomes from PES initiatives have not been satisfactory.**
- ❑ **Most of the PES initiatives are not market driven in the true sense. They are largely policy directed without adequate assessment of the pros and cons. Hence they are highly vulnerable to policy changes.**
- ❑ **The role of PES in providing environmental services is likely to remain at best marginal.**
- ❑ **Before initiating any PES, a systematic assessment of the costs and benefits of different options needs to be undertaken.**





THANK YOU



NINTH EXECUTIVE FOREST POLICY COURSE
**SUSTAINABLE DEVELOPMENT GOALS, CLIMATE CHANGE
AND THE FUTURE OF FORESTS IN THE ASIA-PACIFIC**
24 May - 2 June 2016, Yogyakarta, Indonesia