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Payment for Environmental Services Development in Cambodia

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Outline

- What is PES?
- Why PES?
- Who involve in PES?
- How? And How Much?
- Critical Elements
- PES Projects in Cambodia
- Conclusion on PES

What is PES? 1/5

Incentive based mechanisms for Sustainable Resource Management

(also poverty alleviation, supports systematic and coordinated actions and funding conservation and sustainable use)

What is PES? 2/5

Direct financial and economic incentives for ecosystem conservation requires finding **new systems for generating private and public revenues.**

What is PES? 3/5

Environmental Services – the provision of natural resources and healthy functioning ecological systems that produce environmentally and economically valuable goods and services.

What is PES? (4/5)

Payments for Environmental Services (PES)
Compensation for providing ecosystem services. The actual payment that is transferred, can take on many forms from actual cash to in-kind assistance, exemption from taxes, tenure security, skills training, and other types of compensation. PES includes **those services for watershed, biodiversity, carbon sequestration, landscape beauty, and bundled services.**

What is PES? (5/5)

The core principles of PES are that ***those who provide environmental services should be compensated or rewarded for doing so, and those who use the services should pay for their provision.***

PES: Example

For example, the downstream water users who benefit from the watershed protection services provided should compensate upland farmers for sustainable land use management practices.

PES: Who?

*The user is the **buyer** of the ecosystem service, and the provider is the **seller** of it.*

PES: How Much? (1/2)

In order for PES to provide a meaningful incentive, the payments the sellers receive must be equivalent to the *opportunity costs* of foregoing alternative land use practices (*minimum payment*).

PES: How much? (2/2)

Opportunity costs: – The value of foregone opportunities or alternatives because of time or money towards some other option.

For example, the opportunity costs of a household maintaining a hectare under forest is the income foregone by not clearing and using the land for an agricultural crop.

The same logic applies to ELC.

PES: Why Pay?

Buyers must be convinced that their payments for environmental services are cost-effective and less than the costs of unsustainable natural resource management.

PES: Critical Elements

A critical element in a PES mechanism is that both sellers and buyers of ecosystem services must feel confidence and *trust*,

- for the sellers that they will receive the agreed upon payments and benefits
- for the buyers that the ecosystems services for which they are paying are indeed being provided.

PES: How? (1/2)

Developing and implementing PES mechanisms have a cost. Minimizing *transaction costs* is needed to make payments for environmental services of interest to both potential buyers and sellers of services

PES: How? (2/2)

One way of addressing high transaction costs is through the use of existing, viable processes and institutions.

PES: Critical Elements

This means that the service, or the land or resource use that is known to provide it, must be able to be **monitored and measured**.

Policy and Legal Framework

For PES approaches to be successfully designed and implemented need to be supported by institutions, legal frameworks, and policies that **define** the environmental services, sellers or providers, buyers or fee payers, and financial mechanisms.

Barriers to PES

- Lack of enabling policy and legal framework – including clear property rights
- Lack of market information
- High transaction costs
- High investment costs

Requirements of PES

- Environmental services clearly defined
- Rights to buy and sell environmental services clearly defined
- Buyers and sellers clearly defined
- Safeguards for buyers, sellers and investors
- Financial mechanisms clearly defined.

PES: Property Rights

- Rights to land, water, forest and other resources
- Rights to access environmental services
- Rights to buy and sell environmental services
- Rights to control management of resources owned by others.

- Ownership, specificity, transferability, & enforceability (Prato, 1998)

Public Payment: requires legislation

- Allocate budgets
- Establish administrative rules and responsibilities
- Define what environmental services may be sold
- Specify who may sell and who may buy
- Specify terms of payment
- Specify how the agreements will be monitored
- Specify penalties if one party does not comply.

Other PES Arrangements

- **Community Arrangements**
 - Formal contracts
 - Informal agreements
 - Customary law may need to be considered
- **Markets**
 - Require legislation/regulations for environmental service credits
 - Legislation must specify what types of services may be traded and establish trading rules
- **Eco-certification of products (Green Products)**
 - Legislation helpful but not necessary
 - Guidelines, rules and procedures required

PES: Summary

- 1) Offer an innovative incentive based approach to improve the management and conservation;
- 2) Require that the rights and responsibilities of the buyers, sellers and intermediaries are clearly defined;
- 3) Transactions costs are minimized;
- 4) Mechanisms exist for fees to be assessed, collected and effectively disbursed;
- 5) Monitoring systems are put in place that link payments to performance; and
- 6) Policies and procedures support PES programs.

PES has been applied in CBNRMs

- Protected Forest Communities (+400 in 2010);
- PA Communities (46 in 2009); and
- Fisheries Communities (468 in 2009).
- Fund generated from these communities is called innovative, which some of it can be used for NRM.

Economic Land Concession for Agro-Industry Plantation

- Number of Companies: 37 (17 are foreign)
- Provinces of investment: 12
- Land site investment: 362,198 ha
- Crops of investment: Sugar cane, tapoica, cashew-apple, cashew, corn, bean, soya bean, oil palm, rubber, coffee, fruit trees, acacia etc.
- Animal husbandry.

Source: CDC, January 2010

ELC Figure from MAFF

# of Companies	Provinces	Areas in ha	Request to cancel 41 companies
85	16	956,690	379,034

Sources: MAFF, May, 2010:
www.elc.maff.gov.kh

CDM and PES projects	Type of Project	Approval Date	Annual Emission Reduction (tCO ₂ /yr)	Project Location	Status
Angkor Bio Cogen Rice Husk Power Project	Biomass (rice husk)	19 Jan. 2006	51,620	Ang Snoul District, Kandal Province	Registered (10 Aug. 2006)
T.T.Y. Cambodia Biogas Project	Biogas (animal waste)	4 Jul. 2007	50,036	Memot District, Kampong Cham Province	Registered (03 Sep. 2008)
Methane Fired Power Generation Plant in Samrong Thom Animal Husbandry	Biogas (animal waste)	15 Oct. 2007	6,262	Kien Svay District, Kandal Province	Registered (03 Dec. 2008)
Kampot Cement Waste Heat Power Generation Project	Waste heat/gas utilization (cement production)	20 Nov. 2008	17,249	Dang Tung District, Kampot Province	Under validation
Kamchay Hydroelectric BOT Project	Hydro	20 Nov. 2008	370,496	Kampot District, Kampot Province	Under validation
REDD Project	reforestation		N/A	Preylong, Kampg Thom	implementing
CBNM Chambok	user fees		N/A	Kampg Speu	implementing
Bamboo Market Assessment Project	Market assessment for green products		N/A	Country wide	implementing

No.	Hydropower dams	Companies	Capacity in MW	Location	Status	Remarks	Annual Emission Reduction (tCO ₂ /yr)
1	Kirirom I	CETIC Co.; Ltd.	12	Kg. Speu	Operation		23,012
2	Kamchay	Sinohydro Corporation	193.2	Kampot	Operation by 2010	EIA	370,496
3	Tatay	China Heavy Machinery Corp.	246	Koh Kong	Approved No. 117/SCH/ in 2008 Operation by 2012	EIA	471,749.28
4	Kirirom III	CETIC Co.; Ltd.	18	Koh Kong	approved No. 104/SCH in 10/03/09 Operation by 2012	EIA	34,518.24
5	Atay	Hydropower Dev. Co.; Ltd.	120	Pursat	approved in 2008	EIA under review	23,012.6
6	Lower Sesan II	Vietnam Electricity	420	Stung Treng	to be built in 2009-10 Operation by 2012	EIA under review	805,425.6
7	Cheay Areng	China Southern Power Grid Co.; Ltd.	108	Koh Kong	to be built in 2010	EIA under review	345,182.4
8	Upper Russey (bamboo) Chrum	KTC Cable Co.; Ltd.	32	Koh Kong	MoU signed	EIA being prepared	61,365.76
9	Mid-Russey Chrum	KTC Cable Co.; Ltd.	125	Koh Kong	MoU signed	EIA report being prepared	239,710
10	Lowe Russey Chrum	Michelle Corporation China	235	Koh Kong	MoU signed	EIA report being prepared	450,655
11	Lower Sesan I	Vietnam Electricity	90	Ratanakiri	MoU signed	Feasibility study	172,519

No.	Hydropower	Companies	Capacity in MW	Location	Year of Operation		Annual Emission Reduction (tCO2/yr)
1	Kirirom III	China	18	Kg Speu	2010		
2	Kamchay	China	193	Kampot	2010		
3	Coal Power	Malay+KH	200	Sihanouk	2013		
4	Stung Atay	China	120	Pursat	2012		
5	Coal Power	Malay-KH	700	Sihanouk	2018		
6	Russey Chrum	China	338		2013		
7	Tatay	China	246		2013		
8	Lower Sesan II & Srepok II	Vietnam	420		2016		
9	Chhay Areng	China	108		2017		
10	Sambo	China	450		2019		
11	Coal/gas power	China	400		2020		
12	Total		3,393				

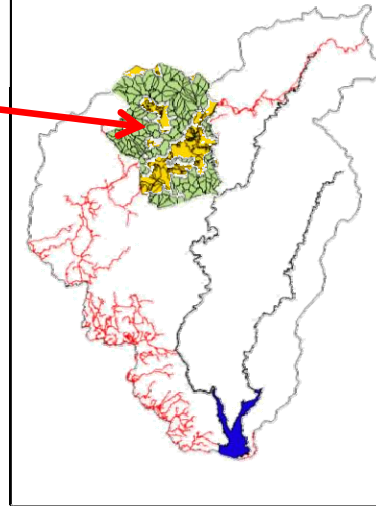
CDC, 2010 quoted MIME, page III-31 in Cambodia investment guidebook.

Example of PES Implementation in Lam Dong Province, VN

- **Pilot Payment for Forest Environmental Services Policy (Decision 380 QD-ttg)** is the first pilot policy to be implemented in Vietnam;
- **Legislation secures \$16.5M in payments** for water regulation and soil conservation functions from EVN/water utilities from 2009-2010;
- **Decision 380 mobilizes public and private sectors** to meet 2020 forest management and poverty reduction targets while securing services values;
- **Decentralization mechanism established;**
- **Lam Dong Biodiversity Action Plan;**
- **Partner agencies;**
- **Provincial Forest Protection and Development Fund**
- **Forest Land Allocation policy** being developed to enable local level stakeholders to invest in system through increased, long-term usufructs rights.

Example in Lam Dong province, Da Nhim Watershed

- ❑ Total area paid in 02 years: 7,508 ha
- ❑ # of household paid: 260 hhs, 82.5% households of the commune
- ❑ Payment rate: 290,000VND/ha for Da Nhim watershed
- ❑ Average payment: 8.7 million VND/hh/year (\$460) for 30 ha/hh



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