Helle Munk Ravnborg.

Mette Gervin Damsgaard.

Kim Raben.

Contents

Abstract and Acknowledgements **4**

1. Introduction **5**

2. De ning payments for ecosystem services **9**

3. Payment for ecosystem services in practice **14**

4. PES issues and challenges **18**

5. PES and poverty reduction **27**

Abstract

1. Introduction

[redacted]

[redacted]

[redacted]

(, 00).

(*et al.*, 00 : *et al.*, 00 :
00) (1,).

P (**A**

1 0 1 0 (, 00).

economic instruments *sanctions,* *resource use fees,* *incentives,* *direct payments,*

2. Defining payments for ecosystem services

voluntary, conditional transaction with at least one seller, one buyer, and a well-de ned environmental service (, 00 1)

(00 *et al.*, 00), *real, legal* *real* *legal* (!). *not* *and*

Box 1 – Types of ecosystem services

Category of ecosystem service	Examples of ecosystem services	Functional type of ecosystem service (according to MEA classi - cation)	Spatial boundedness of ecosystem service bene ciaries		
			Local	Regional	Global

Financial arrangements for sellers:

- **Direct compensation or payment:**
- **Investment or development fund:**

Financial arrangements for buyers:

- **Customer-charged payments:**
- **Lump-sum contributions:**
- **Tax-based contributions:**

3. Payment for ecosystem services in practice

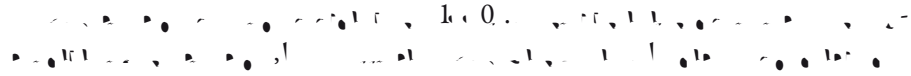
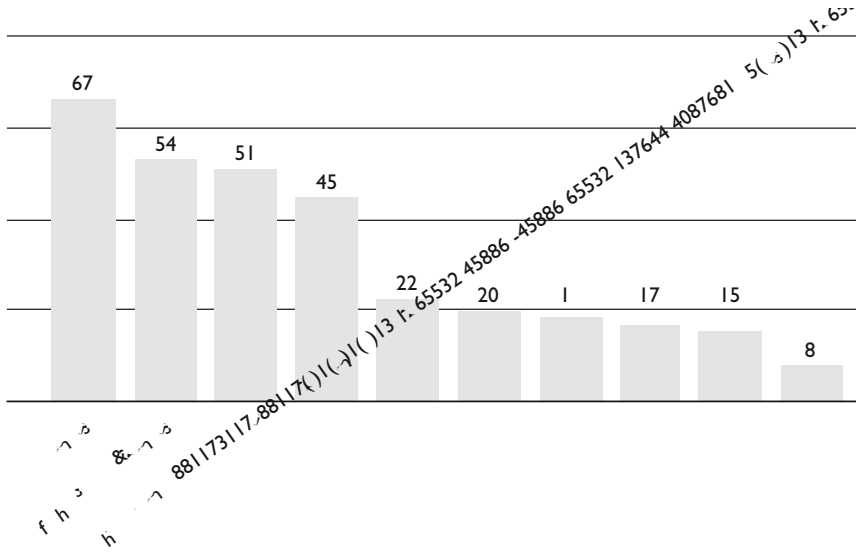


Figure 2. Ecosystem service types dealt with in references regarding ecosystem service type included in literature review

(N=167 ecosystem service specific references)

Figure 3. Ecosystems in which PES experiences are reported in ecosystem-specific references included in literature review (N=157 ecosystem specific references)



I

Incomplete knowledge on the links between desired ecosystem services and ecosystem management practices can lead to de facto non-conditionality

assumed proven

(00)

Involving intermediaries without sacri cing the direct, voluntary transaction

C

1.

3. Intermediaries acting as transfer agents, brokers etc. between service buyers and providers

C

C **A**

y

e risk of endorsing illegal resource utilization

(*et al.*, 00).

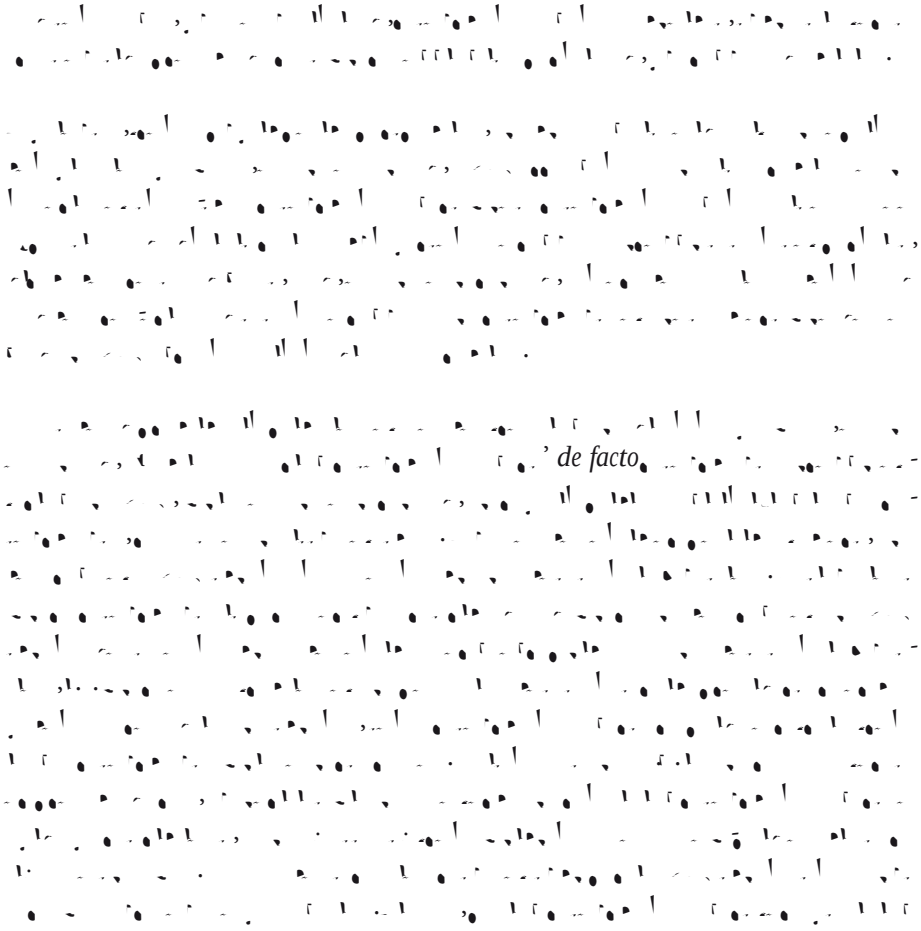
páramo *páramo* (, 00) (,000).

páramo

páramo

páramo thus *de facto*

(00


' de facto

(*et al.*, 00 1).

(, 00 *et al.*, 00).

PES as an instrument to strengthen – contested – resource claims

páramo

et al., 00).

et al., 00 *et al.*, 00 C - , 00)

00)

e role of the state

5. PES and poverty reduction

(00),

E

( )

( ).

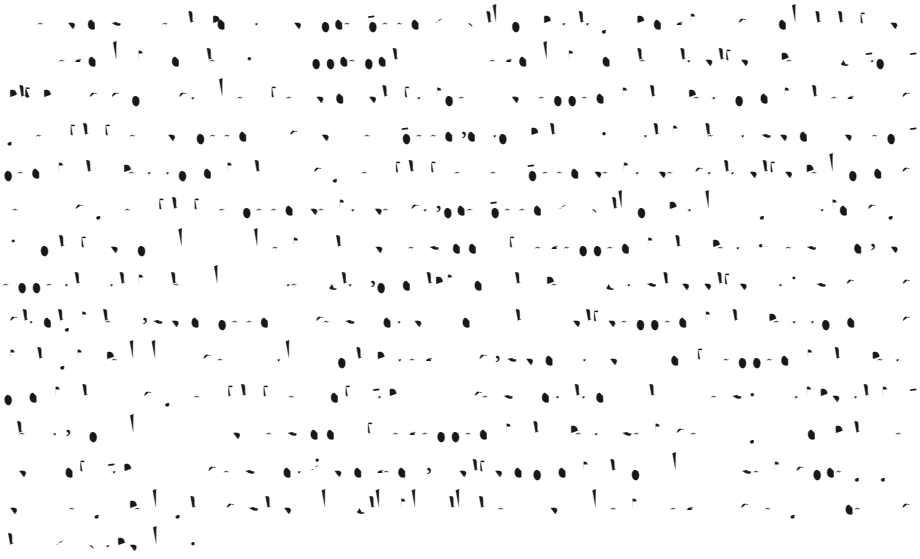
(00),

1 1-1( ) ( ) ( ) ( )1 ( )- (-) ( )- 1(

(*et al.*, 00 00)

(*et al.*, 00 *et al.*, 00 , 00).

K (1 *et al.*, 00),

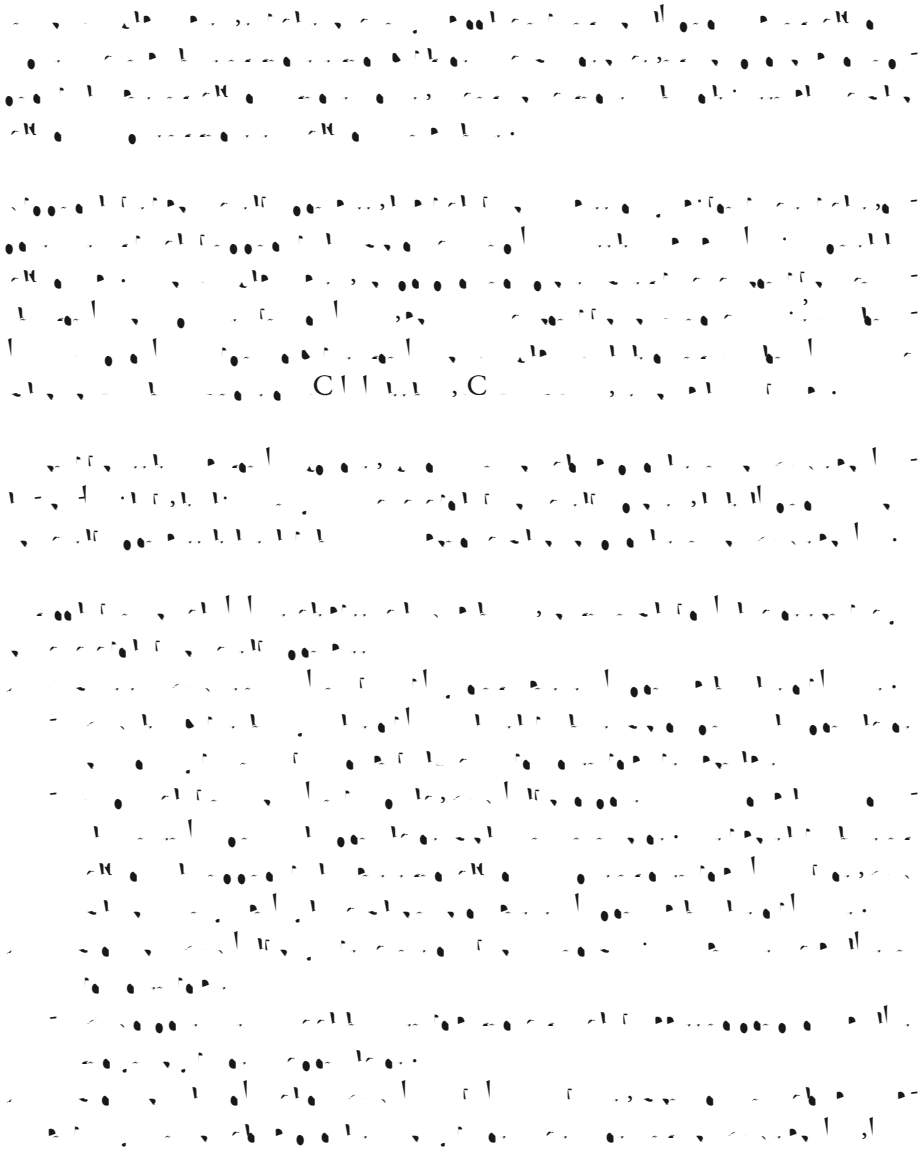


G **A** **A**

(*et al.*, 00 : - , 00).

O 2: SA (A (PES , A (PES

et al.,



O 4: SA

References

C . 00 . C , C .
. 00 . C
. *World Development, 33*( ), 1 11-1 .
K . 00 . C ,
C .
C . . 00 . *Peasants' production systems and the integration of incentives for watershed protection. A case study of Guatemala.*
C C
00 .
. 00 . *Getting biodiversity projects to work: towards more e ective conservation and development.* C
00 . .C.
, C, . 00 . *Paying for the Hydrological Services of Mexico's Forests: analysis, negotiations and results*
. *Proceedings of the National Academy of Sciences*
. 00 . C
. *World Development, 33*( ), .

Annex

(// = 00)
& (00). ', *ARE Update*,

& (00). *An assessment of Mexico's Payment for Environmental Services Program.* . (//)

& (00). 1/ / 00 . (// % 0 % 0)

& (00). , C 00 . (//)

. & (00). *Consideraciones económicas y sociales en el desarrollo de un esquema de pago por servicios ambientales (PSA): teoría y práctica.* C .

, C. (00). *Understanding the supply response of local public goods to environmental service payments.* . 0 . (//)

, . (00). *Institutional constraints and opportunities in developing environmental markets: lessons om institutional studies on RUPES in Indonesia.* C . (// % 0)

. (00). *Environmental service 'payments': experiences, constraints and potential in e Philippines.* C . (//)

(00). *Small and medium forest enterprise in Uganda.*

(00).

C. & . ( ) (00). *e tale of two continents – Ecosystem services in Latin America and East and Southern A ica* ( ).

& (00). *Valuation of hydrological externalities of land use change: lake Arenal case study, Costa Rica.*

& (00). *Handbook of market creation for biodiversity – issues in implementation.*

C.

(00). *Spatial prioritization of environmental service payments for biodiversity protection.*

C. & (00).

', *World Development,* , . 1 -1 .

(00). *Making environmental markets work: lessons om early experience with sulfur, carbon, wetlands, and other related markets.*

% 0 = % 0

(00).

C. & ( ) (00). *e tale of two continents – Ecosystem services in Latin America and East and Southern A ica,*

(00).

C. & ( ) (00). *e tale of two continents – Ecosystem services in Latin America and East and Southern A ica,*

& (000). *Financing biodiversity conservation.*

C.

-1 C

10-11, 00 . C (. //
= / / = C =)
, . C., ' (00). C
K ' , . .(.) (00). *Capturing carbon & conserving biodiversity – e market approach*, . - 0 .
, (00). ' ,, . (.). (00). *Selling forest environmental services – Market-based mechanisms for conservation and development*, . 1 -
, ., . C & . (00). ' , . .(.) (00). *Capturing carbon & conserving biodiversity – e market approach*, . 0 - 1.
, . . (00). *Rewards for environmental services in the Philippines uplands: constraints and opportunities for institutional reform*

. (1). *Community-based incentives for nature conservation.* C
C . . (. //
)
(00). *Payment schemes for environmental services in watersheds: Regional Forum, 9 to 12 June 2003, Arequipa, Peru.* . , . (// /
/00 / 0 / 0 00)
& C (00). *Electronic forum on payment schemes for environmental services in watersheds* ( ). C .
(. //
. (1). ', *Ecological Economics,* . 0, . 1, . 0.
. (00). C ', *Environment and Development Economics,* . 10, . 0 , .

& (00).

', *World Development,* . 1 11-1 .

. (000). *Fiscal incentives for biodiversity conservation: the ICSM Ecológico in Brazil.* . 00-01.

, . (00). *From good-will to payments for environmental services: a survey of nancing alternatives for sustainable natural resource management in developing countries.* . (, //1.1.1.1/1 1 01 / 1 1 0 011 11 1 . 0 / 0 - // / =)

, . (00). *How to scale-up current experiences of payments for watershed environmental services so that they deliver substantial conservation and rural poverty alleviation improvements?* , C .

, . (00). C ': , ., C & . (. .) (00). *e tale of two continents – Ecosystem services in Latin America and East and Southern A ica,* . -10.

, . (00). ': , ., C & . (. .) (00). *e tale of two continents – Ecosystem services in Latin America and East and Southern A ica,* . - 1.

, . (00). ': , ., C & . (. .) (00). *e tale of two continents – Ecosystem services in Latin America and East and Southern A ica ,* . - .

, . (00). C ': , ., C & . (. .) (00). *e tale of two continents – Ecosystem services in Latin America and East and Southern A ica,* . -10.

, . (00). ': , ., C & . (. .) (00). *e tale of two continents – Ecosystem services in Latin America and East and Southern A ica,* . - .

, . (00). *From the mountain to the tap: how land use and water management can work for the rural poor.* ( ). (, //

, . (. .). *Gestión de servicios ambientales y manejo de áreas naturales en cuencas andinas.* . (, //

( ), (00). *Forestry and land use project summary. Developing markets for watershed protection services and improved livelihoods.* . (, //- / /- / . /)

& . (00). ', *Environment,* . . , . , % 0 % 0 % 0 =)

, C. (00). *Development assistance to upland communities in e Philippines.* C (, //- / . / /- / /C% 0 =)

. & . (000). *El pago de servicios ambientales como una alternativa para el desarrollo rural – Proyecto educación participativa sobre la gente y la naturaleza.* C .

, ., & - , . (000). *Developing markets for water services om forests. Issues and lessons for innovators.* , , . (, //1.1.1.1/ 0 1 1 0/ 1 0 011 1 1 . 0 / 0- //- / / / / = . = = =)

. & . (00). *Review of developments of environmental services markets in Sri Lanka.* C . (, //- / / / % 0 / . =)

. & . (00). *Financial incentives for ecosystem conservation: a review of the development of markets for environmental services in Sri Lanka.* C . (, //- / /- / / 00 -100,)

. & . (00). ', *Unasylva,* . . , . 1, . . (// /- /00 / 1 / 1 1)

, . (00). ' . , ., C. & . (. .) (00). *e tale of two continents – Ecosystem services in Latin America and East and Southern A ica,* . .

. (00). , . (. .). (00). *Selling forest environmental services – Market-based mechanisms for conservation and development,* .

K , . (00). ', *World Development*, . 0, . 1 -1 00.
K , (00). *Trip Report: Property rights, environmental services and poverty in Indonesia.* . (, //- . /1 / 1 / 0 11)
K , ., ., & (00). *Property rights and environmental services in Lampung Province, Indonesia.* C .
K , ., & (00). ', *Seminar on environmental services and nancing for the protection and sustainable use of ecosystems.* , 10-11, 00 . C . (, //- / / /1 = / /)
K , ., & (00). *An inventory of current ecosystems service payments, markets and capacity building in South A ica* C .
K , ., & (00). *Developing markets for watershed protection services and improved livelihoods: a diagnostic for South A ica.* C . (, //- / / 000 / / - / /1 =)
K , ., C , & (00). ': (.) (00). *Capturing carbon & conserving biodiversity – e market approach*, . 0-101.
K , (00). *Some recent PES experiences and proposals of GTZ projects and programmes in Latin America and the Caribbea.* C (C).
K , . (00). , 00 . (

K . . , . & . . . (00). C . . . .

. (. .) (00). *Capturing carbon & conserving biodiversity – e market approach*, . . - 1. . .

K . . , . & . . (00). . . . . ’. *Seminar on environmental services and nancing for the protection and sustainable use of ecosystems*. , . - . 10-11, 00 . C . . . . (, // . . / / . / – . . / . . / . . -C . -% 0 . . - . .)

K . . , . (00). . C . . . . ’: , ., C. & . (. .) (00). *e tale of two continents – Ecosystem services in Latin America and East and Southern A ica*, . . 1- . . . .

. . & K . . (00). . . . . ’: . . ., . . (. .). (00). *Selling forest environmental services – Market-based mechanisms for conservation and development*, . . 1 1-1 . . .

. . , . (00). . . . . (. .) (00). *Capturing carbon & conserving biodiversity – e market approach*, ...

. . , ., & . . (00). . . . . ’. *Silver bullet or fools’ gold? A global review of markets for forest environmental services and their impacts on the poor*, . . - . .

. . , ., & . . (00). . . . . ’: *Silver bullet or fools’ gold? A global review of markets for forest environmental services and their impacts on the poor*, . . 0. .

. . , ., & . . (00). . . . . ’. *Silver bullet or fools’ gold? A global review of markets for forest environmental services and their impacts on the poor*, . . 1-110. .

. . , ., & . . (00). . . . . ’: *Silver bullet or fools’ gold? A global review of markets for forest environmental services and their impacts on the poor*, . . 111-1 . .

, . & . (00). *Assessing the livelihood bene ts to local communities om the Profafor Carbon Sequestration Project, Ecuador.*
C . (, //
% 0 =
& (00). *e social impacts of payments for environmental services in Costa Rica. A quantitative eld survey and analysis of the Virilla watershed.* . (, //
, . (00). ', *Irrigation water policies: micro and macro considerations.*
C .
, . & . C (00). *Financing mechanisms: for conservation and sustainable management of Central A ica forests* ( ). , . (, //
, , , & (00). *Action-learning to develop and test upstream-downstream transactions for watershed protection services: a diagnostic report om Segara River basin, Indonesia.* ( ):

(..). (00). *Selling forest environmental services – Market-based mechanisms for conservation and development*, . 1- 0.

(..). (00). *Selling forest environmental services – Market-based mechanisms for conservation and development*, . 1-1 .

, Agriculture, Ecosystems and Environment, . 10 , . 1, 1-1 .

. (00). *Payments for environmental services: annotated bibliography*.

, . & . (00). *What are we learning om experiences with markets for environmental services in Costa Rica? A review and critique of the literature.* . (, , //- - - - -)

, . (1). *Comercio de servicios ambientales y desarrollo sostenible en Centroamérica: Los casos de Costa Rica y El Salvador* . (, , //- - - - -)

, ., . & . (00). *Compensation for environmental services*

(00). *Capturing carbon & conserving biodiversity – e market approach,* .

(00). *Capturing carbon & conserving biodiversity – e market approach,* .

(00). *Capturing carbon & conserving biodiversity – e market approach,* . 1 - 0.

(00). *Policy learning in action: Developing markets for watershed protection services and improved livelihoods.* ( ). ( ).

(00). *A new agenda for forest conservation and poverty reduction: making markets work for low-income producers*

K . (00). *Developing markets for watershed protection services and improved livelihoods in India.* ( ) . (// / / / . / = = =)
. (00). C C . ’ . , ., C. & . (.) (00). *e tale of two continents – Ecosystem services in Latin America and East and Southern A ica,* . 11-1 .
. & . (00). *Paying for Environmental Stewardship: using markets and common-pool property to reduce rural poverty while enhancing conservation.* , C . (// . . / /)
. & . C . (00). C ’, *Agriculture, Ecosystems and Environment,* . 10 , . 1 -1 0. (// / / . / =C % 0)
. & . (00).’ , C . ’, *Ecological Economics,* . , . 1, . 1 1-1 1.
. & . (00). *Forest Carbon and Local Livelihoods: Assessment of Opportunities and Policy Recommendations,* C . C C . (// / / . / -0)
. C, . & . (00). *Gestión local y participación en torno al pago por servicios ambientales: Estudios de caso en Costa Rica.* (//)
& (00). *Environmental scal reform for poverty reduction.* C C (// /1 / /)
& . (00). *Synergies between trade in environmental services and trade in environmental goods.* C . (// / / / 0 .)
& . . (00). ’, *World Development,* . , . , .1 -1 0 .

(00). *A revised forest strategy for the World Bank Group*.
C
. (00).