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Payment for Ecosystem Services Pilot Implementation in Mae Sa-Kog Ma Man and Biosphere Reserve

Chiang Mai Province

USAID Lowering Emissions in Asia's Forests (USAID LEAF)

2014



1. BACKGROUND



The United States Agency for International Development-funded Lowering Emissions in Asia's Forests (USAID LEAF) program aims to implement a pilot scheme of Payment for Ecosystem Services (PES) in the Mae Sa-Kog Ma UNESCO Man and Biosphere Reserve site in Chiang Mai Province, Thailand. In accordance with The Mae Sa-Kog Ma Management Plan developed by the Mae Sa-Kog Ma Biosphere Reserve technical working group – Protected Area Regional Office 16 (Chiang Mai), USAID LEAF identified PES implementation to strengthen local groups and networks and establish regulations for natural resource management as a priority activity under Strategy 2 of the plan.

PES is an innovative approach which is expected to enhance participatory management of forest and natural resources, and serve as an alternative to typical state control over natural resources. The PES approach integrates key stakeholders in the implementing site, such as communities who protect natural resources, public sector groups that are resource users, and beneficiaries. Development of a PES model would create collective action through negotiations and design of a market-oriented mechanism that generates tangible economic benefits from natural resource conservation.

Many current economic and socially driven policies cause rapid change in forest land use that leads to deforestation, loss of forest ecosystem services and global climate change. The Eleventh National Economic and Social Development Plan (NESDP) B.E. 2555 – 2559 (A.D. 2012 – 2016) Thailand focuses on the United Nation's "Green Economy" approach to increase income and alleviate poverty by the end of 2016, including a reduction in greenhouse gases and environmental degradation. The 11th NESDP mentioned PES as a new instrument to generate income from natural resources and biodiversity conservation. Therefore, pilot PES implementation in the Mae Sa-Kog Ma Biosphere Reserve in Chiang Mai Province will test and develop an incentive-based mechanism that fits into the Thailand context and generate lessons learned that will enable a policy framework for PES to support sustainable environmental and ecosystem conservation.

2. WHAT IS PES?

Payment for Ecosystem Services (PES), also known as payment for environmental services, is a mechanism that promotes participatory natural resource management whereby an ecosystem services provider accepts a reward or compensation from ecosystem services beneficiaries. Ecosystem Services (ES), or environmental services, are defined as direct and indirect contributions of ecosystems to human well-being. The Millennium Ecosystem Assessment (2005) divided ecosystem services into 4 categories:

People or groups of people who manage an ecosystem and its natural resources to ensure its services are provided are called an ecosystem services 'seller', while users or beneficiaries of ecosystem services who pay compensation to the provider are called a 'buyer'.

1) Provisioning services are products or goods obtained from ecosystems such as food, drinking water and fuel wood.

2) Regulating services are benefits obtained from the regulation of ecosystem processes such as climate regulation and preventing soil erosion.

3) Supporting services are ecosystem services that are necessary for the production of all other ecosystem services such as primary production and wildlife habitat.

4) Cultural services are nonmaterial benefits people obtain from ecosystems through spiritual enrichment, cognitive development, reflection, recreation, and aesthetic experiences such as cultural, recreational, educational and cultural heritage.



Wunder (2005)¹ describes PES as having five essential characteristics:

- 1) A voluntary transaction between an ecosystem services 'seller' and 'buyer'
- 2) A well-defined ES
- 3) At least one ES buyer
- 4) At least one ES seller
- 5) Payment under a condition whereby an ES provider secures service

The majority of real-world PES schemes which do not meet all five characteristics are referred to as "PES-like" schemes.

An example of a successful PES model in Southeast Asia is found in Lam Dong province, Vietnam, where successful implementation of a pilot activity led to the disbursement of US \$4.46 million from ecosystem services users such as hydroelectric power plants, water companies, and tourism operators to the Forest Protection and Development Fund (FPDF). These funds were distributed to 22 Forest Management Boards and forestry businesses, as well as to 9,870 households, for the protection of 209,705 hectares of forest area. This also led to the signing of a national PES Decree into the country's law and made Vietnam the first country in Southeast Asian region to effectively implement a PES decree nation-wide.

¹ Wunder, S. (2005): Payments for Environmental Services: Some nuts and bolts. Occasional paper. CIFOR, Indonesia

3. OBJECTIVES OF PILOT PES IMPLEMENTATION IN THAILAND



Pilot PES in Thailand is being implemented to achieve USAID LEAF's **Objective 1**: "Replicate, scale-up and share innovations in Thailand through the participation in, and learning from, regional PES and REDD+ platforms and partnerships," and **Objective 4**: "Demonstrate innovation in sustainable land management". Development of a PES scheme would fit within the Thailand context, and could result in a scheme which requires collaboration with the involved parties, including the Thailand government, the private sector and local communities, for the establishment of a PES management mechanism in the selected pilot site to enhance field implementation and capture lessons learned. This work also supports the program's **Objective 2**: "enabling laws, policies, agreements or regulations at a national or sub-national scale which address GHG reductions and the provision ecosystem services". **Objective 3**, which is to "increase human technical capacity, awareness and knowledge on forest ecosystem services and PES", will also be addressed through the pilot implementation.

As a result, pilot PES implementation in Thailand will lead to the participation of government officials, the private sector and local communities to manage ecosystems and natural resources by providing a payment incentive under the management of an established pilot PES mechanism to local communities to protect ecosystem services. This will create an innovative alternative that benefits all key stakeholders involved in natural resource management efforts. Citizens will be able to make their own decisions and take action in regards to forest conservation and conservation policy.

4. PILOT SITE, TARGET COMMUNITIES, AND ECOSYSTEM SERVICES

The Mae Sa-Kog Ma Man and Biosphere Reserve (MSKM-MAB), Chiang Mai Province, is the field site for activities implemented by USAID LEAF in Thailand including the PES pilot. MSKM-MAB is a UNESCO Man and Biosphere Reserve. The UNESCO Man and Biosphere program is an intergovernmental scientific initiative to integrate issues related to environment, society and development. Biosphere reserves are meant to promote the harmonious integration of people and nature for sustainable development and ecosystem and natural resources conservation through a participatory approach that engages all stakeholders from governmental officials to the private sector to local communities. The technical working group (TWG) of Protected Area Regional Office 16 (PARO 16, Chiang Mai) is the designated agency from the Department of National Parks, Wildlife and Plants Conservation, Thailand (DNP) to collaborate with USAID LEAF to identify the pilot site, and develop and implement the PES scheme. Potential target communities, stakeholders and ecosystem services are shown in Table 1. A map of MSKM-MAB and potential communities for piloting the PES are shown in **Photo 1**.

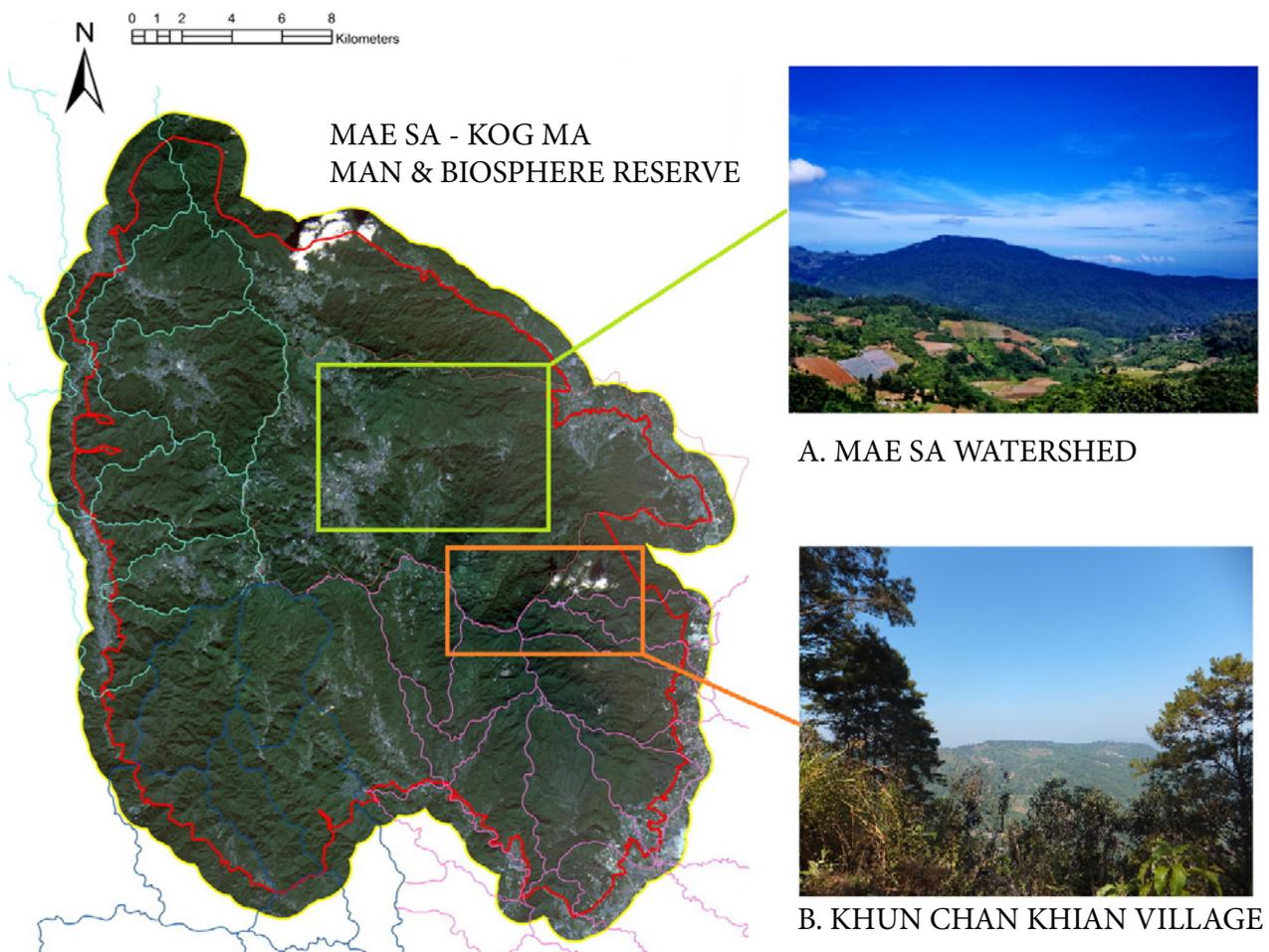


Photo 1: The Mae Sa - Kog Ma Biosphere Reserve and a potential site for pilot PES scheme development and implementation

Table 1: PES Pilot scheme target communities - Potential ecosystem services, buyers and beneficiaries, and activities

Target communities (Ecosystem Services Seller/Provider)	Ecosystem Services	Ecosystem Service Buyer/ Beneficiaries	Potential activities to enhance services under the pilot PES scheme
<p>A. Mae Sa Watershed Communities</p> <p>Ban Mae Sa Mai Village, Pong Yeang Sub-district</p> <p>Ban Nong Hoi, Ban Mae Mhae,</p> <p>Ban Mae Nai villages, Mae Ram Sub-district</p>	<ul style="list-style-type: none"> - Watershed Services - Aesthetic and Cultural Services 	<p>Local entrepreneurs in Mae Sa watershed such as Mae Sa Elephant Camp, Botanical Garden, Mineral Water Company, Hotels, Resorts and other downstream communities</p>	<ul style="list-style-type: none"> Forest Restoration Watershed Rehabilitation Protection of indigenous knowledge and local culture Development of eco-friendly tourism
<p>B. Communities practicing fire management inside the core and buffer zones of MSKM MAB</p> <p>Ban Khun Chang Khian Village, Chang Phueak Sub-district</p> <p>Ban Huay Thueng Tao, Don kaew Sub-district</p>	<ul style="list-style-type: none"> - Carbon sequestration and reducing GHG emission services - Watershed services 	<p>Chiang Mai and communities inside MSKM MAB that benefit from the reduction of smoke caused by forest fire</p>	<ul style="list-style-type: none"> Community-based management Forest restoration Public awareness of fire and GHG emissions.

5. STEPS FORWARD FOR PILOT PES IMPLEMENTATION IN MAE SA-KOG MA MAN AND BIOSPHERE RESERVE

Pilot PES implementation in the Mae Sa-Kog Ma Man and Biosphere Reserve, is divided into two phases

Phase I: Pre-Implementation (2012-2014) - This phase focuses on awareness raising of the PES concept, and will produce a study on the existing policy framework, and an evaluation of ecosystem services inside MSKM-MAB. Key highlight activities during Phase I are:



1. A technical PES Study Tour in Lam Dong Province, Vietnam organized by USAID LEAF in February 2012. Five local stakeholders and seven officials from MSKM-MAB participated. The key outcome was learning the PES development process in Vietnam, for adaption for implementation in Thailand.

In 2013, USAID LEAF Thailand provided support for additional stakeholders from MSKM-MAB to participate in a PES training in Laos which included topics such as Introduction to a Payments for Environmental Services

(PES) Scheme and Payment for Environmental Services (PES) Schemes: Mechanism Design.

2. USAID LEAF published a case study of land tenure and a review of policies related to PES implementation in September 2012.

3. A survey on the valuation of ecosystem services in MSKM-MAB was conducted to gauge the opinion of local communities and the private sector in regards to ecosystem services and engagement in PES. The results from this survey will be used for decision making in pilot PES implementation.

4. Business entrepreneurs in Chiang Mai were engaged to discuss potential PES collaboration and other activities inside MSKM-MAB. The private sector was also engaged in a collaboration with local communities in MSKM-MAB for activities such as a tree planting to restore a degraded watershed



Phase II: Implementation (2014-2015) – This phase focuses on collaborating with all stakeholders to identify pilot sites and establish a PES mechanism for implementation. Key highlight activities during Phase II are:

1. A field expedition to identify a pilot site. USAID LEAF staff, their government counterparts and the private sector will visit potential sites for a pilot PES to understand the site’s recent history and consult with local communities to identify their needs and produce an outline of further collaboration. This field evaluation will be used to identify the most suitable pilot sites for PES implementation.

2. Gather and analyze data to select ecosystem services buyers and sellers in the pilot scheme. Relevant baseline data such as the size of community that provides ecosystem services and area of forest that provides ecosystem services (e.g. carbon sequestration) will be used to determine the payment amount to the sellers. Support data from beneficiaries, such as the private sector, and the valuation of ecosystem services identified by local communities in the survey could be used to designate ecosystem services in the payment scheme. All relevant data could be deliberated on in a knowledge sharing seminar or meeting for decision making on pilot PES establishment.

3. Negotiate with stakeholders to facilitate a voluntary engagement mechanism in the pilot PES. An ongoing collaboration with the private sector as ecosystem services buyers to determine potential types of activities and support which ones justify their interest and organizational policy will be established. For example, establishment of a funding mechanism and creation of a public awareness campaign to support funding could be advanced. The concept of Corporate Social Responsibility (CSR), which integrates social and environmental concerns in business operations could also be applied on a voluntary basis to fit the PES scheme. Negotiation between buyers and sellers would initially define each stakeholder’s responsibilities and benefits, and pave the way for the PES agreement process.

4. Establish a PES agreement and launch implementation. After the above-mentioned steps, the PES agreement will be written and signed by key parties. The agreement will include the following major details: Ecosystem services buyers and sellers, intermediaries, sources of funding or payment mechanisms, types and amount of payments, role and responsibilities of each party, list of activities, target area and pilot scheme timeline, and monitoring of the action plan to assess progress. Once the PES agreement is approved and signed, the PES pilot will be implemented.

5. Monitor, evaluate and report on the pilot PES implementation. Implementation challenges, lessons learned and conclusion of the pilot scheme will be presented in a seminar for sharing and discussing ways to further move forward on policy or legal frameworks that scale up PES implementation in the long term.

Corporate Social Responsibility (CSR) integrates social and environmental concerns in business operations and interaction with stakeholders on a voluntary basis. CSR is believed to have been applied in Thailand since 2006. There are three achievement pillars in the CSR model: economic profits, social and environment. The term “social” means “communities” or “people in the communities” in which the organization operates. CSR not only ensures active compliance with laws or ethical standards, but also invests in projects that create public benefits such as supporting youth capacity to conserve the ecosystem and environment. This good practice is profitable for society and enhances business benefits, as well as an organization’s corporate image.

The PES mechanism is different from CSR at the levels of participation and negotiation between business practitioners and local communities to forge an acceptable agreement in which ecosystem services buyers provide a payment to the sellers, compared with the on-ground reality, where business organizations identify activities and choose stakeholders to perform CSR by themselves. However, PES can be adapted to fit with the CSR policy of each business practitioner as an alternative investment practice with benefits to both the social and environment sectors.

In parallel with processes above, trainings to improve technical capacity related to PES will be undertaken to create awareness and readiness of stakeholders who participate in pilot implementation. The timeline for Pilot PES implementation in Mae Sa-Kog Ma Biosphere Reserve (Phase II) is shown in **Table 2**.

Table 2: PILOT-PES IMPLEMENTATION IN MAE SA-KOG MA MAN AND BIOSPHERE RESERVE

Action Plan	2014		2015			
	Jul - Sep	Oct - Dec	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec
1. Pilot Site Selection	x	x				
2. Data Analysis and Identification of Stakeholders	x	x				
3. Negotiation and Complete PES agreement		x	x			
4. Pilot PES Implementation			x	x	x	x
5. Monitoring and Evaluation			x	x	x	x
6. Report and Lessons Learned Policy Recommendation						x

6. IMPLEMENTATION CHALLENGES OF PES

Since PES is still a relatively new natural resource management innovation, a conceptual understanding of it, in addition to collaborative efforts of various stakeholders, is required for its testing and adaption in Thailand. Below is a list of pilot implementation challenges in MSKM-MAB.



1. Insufficient understanding and misunderstanding of PES concepts between stakeholders. Awareness raising to date has not covered all relevant sectors in the potential pilot sites. More time is required to achieve a greater understanding of PES during the pilot establishment process.

2. PES pilot target areas require a substantial amount of supporting baseline data. Additional data would need to be collected by local communities by using the Participatory Action Research approach. Local communities, as ecosystem services providers, would be able to use their indigenous knowledge to

verify both fundamental ecosystem services in the pilot site and those who benefit from the services. The collected data will be used during the negotiation and decision process for the payment scheme. However, if government authorities also involved in the negotiations have a different methodology for collecting data, finalization of an agreement will take more time due to these processes and/or legal constraints.

3. Finding potential buyers from the group of ecosystem services beneficiaries will be challenging. There are numerous private sector organizations that profit from ecosystem services, but many are more focused on CSR rather than PES due to the fact that with CSR they are able to select their own site and activities, compared to PES, which is voluntary and has no legal requirements or tax incentives. Therefore, private sector engagement in PES can be painstaking, and participation difficult to predict. Funding sources for the pilot scheme will also be difficult to predict. During the negotiation process, PES should be demonstrated as a good integrated practice which improves the private sector's CSR, thus creating a business incentive to engage in the pilot scheme.



Due to the above challenges, pilot PES in MSKM-MAB may differ with other PES schemes being implemented in the region. The pilot scheme is expected to generate lessons learned, which will be adapted to fit into the Thailand context in order to promote a partnership between the government, the private sector and local communities for sustainable natural resource management, which in turn will foster social well-being, nature and the environment.

7. EXPECTED OUTCOMES OF PILOT PES IMPLEMENTATION



Pilot PES implementation in MSKM-MAB is expected to establish a system of PES innovation by incorporating engagement with local communities, the private sector and government to develop a transparent pilot payment scheme that ensures equality in benefit sharing from ecosystem services such as watershed regulation, aesthetic and recreation, and carbon sequestration to mitigate climate change, to both providers and beneficiaries. Local communities are expected to gain livelihood benefits from payment allocation or support activities identified in the pilot scheme. Lessons learned and policy recommendations will enable a legal framework to support long term implementation. Scaling up of PES innovation will also benefit other countries in Southeast Asia, such as Laos, through study tour exchanges and sharing lessons learned via the regional platform.

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