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A Review of PES Implementation in Cambodia

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September, 2016

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A REVIEW OF PES IMPLEMENTATION IN CAMBODIA

Naret Heng and Sopheak Kong

EXECUTIVE SUMMARY

Payment for ecosystem services (PES) schemes constitute one of the approaches that have been adopted and implemented in Cambodia in order to ensure the effective use of natural resources. PES, as the name implies, involves payments made to compensate and incentivize individuals or groups engaged in activities that support the provision of ecosystem services. In Cambodia, the pilot PES program was instituted as a complementary program to the Protected Area Management Program in 2002 with support from the Ministry of Environment (MoE), the Ministry of Agriculture, Forestry, and Fishery (MAFF), and international nongovernmental organizations.

PES programs have been implemented in PES and PES-like forms in Cambodia focusing on watershed, biodiversity conservation, recreation/landscape beauty, and carbon sequestration and storage. The Royal Government of Cambodia, especially the MoE and the MAFF, development partners, international organizations, local NGOs, local governmental units (provincial, districts/*sangkat*, commune), and households have been involved in implementing PES and PES-like programs in the country. In order to protect the natural resources in Cambodia, key laws on protected areas, community forestry, fisheries, economic land concessions, social land concessions, and land ownership have been established and implemented all over the country. In spite of this, a specific PES law or policy has not been crafted in Cambodia.

International support for implementing PES and PES-like programs has been carried out only in targeted protected areas in Cambodia. Within the protected areas, only a few villages or families participate. In general, private institutions, local government units, the academe, and forest communities have limited awareness and understanding of PES schemes. Although various tools exist for the valuation of ecosystem services, the potential use of these tools is still largely unrealized and the payment levels in PES schemes are likely to be derived from a combination of practical factors rather than from a technical evaluation of the economic value that can be attributed to the ecosystem services in question.

Because majority of the PES-like programs are supported by external donors, proper withdrawal and continuity mechanisms should be considered when such support phases out. Some models of PES-like programs in Cambodia, such as the agri-environment payment schemes, community-based ecotourism schemes, and direct contracts for bird nest protection schemes, could be replicated to other areas. These models not only help farmers to have better living conditions, but they also ensure the sustainability of natural resources. Learning and working together by the local community and NGOs is the foundation for ensuring the continuity of the PES/PES-like programs after the NGO project ends.

This report presents a review of selected current literature on PES and/or PES-like schemes implemented in Cambodia in order to provide insights into the status of these schemes in the country. Local and international NGOs were visited and interviewed in order to capture the elements of the individual programs. Specifically, four programs of PES-like programs in different protected areas and wildlife sanctuaries in Cambodia were chosen for this study: (1) Agri-Environment Payment Scheme in Kulen Prom Tep Wildlife Sanctuary, (2) Conservation Agreement Payment Program in the Cardamom Mountains, (3) Chambok Community-Based Ecotourism Project, and (4) REDD+ Cambodia Carbon Sequestration Project in Oddar Meanchey province.

1.0 INTRODUCTION

While the gap between rich and poor (especially in developing countries) is continuing to grow significantly, the ecosystem is being threatened by development activities. Large-scale direct foreign and local investments (through land concessions) are clearing huge areas of forest, which seriously affects biodiversity, watersheds, landscapes, and human settlements. In addition, illegal activities from poor local households also contribute to ecosystem damage. To protect the ecosystem for future generations, interventions at the international, regional, and country levels have been introduced in affected countries in order to equip them to manage and use natural resources effectively and sustainably.

The payment for ecosystem services (PES) scheme is one of the approaches adopted and implemented in Cambodia in order to ensure effective use of natural resources. PES, as the name implies, involves payments made to compensate and incentivize individuals or groups engaged in activities that support the provision of ecosystem service. PES is a mechanism that has gained increasing interest and recognition over the past decade or so, and is emerging as a central tenet of “contractual conservation” (Wunder 2008).

In Cambodia, PES schemes that satisfy Wunder’s (2008) definition are not yet well established. However, the pilot PES program was instituted as a complementary program to the Protected Area Management Program in 2002 with support from the Ministry of Environment (MoE), Ministry of Agriculture, Forestry, and Fisheries (MAFF), and international nongovernmental organizations. Since then, several programs/activities have been carried in PES-like manner (Clements et al. 2010). The implementation of PES-like programs has been disaggregated by sector, i.e., watershed, biodiversity conservation, recreation/landscape beauty, and carbon sequestration and storage.

PES programs have been implemented in PES and PES-like forms in Cambodia. The schemes have gained more attention over the past decade as a conservation tool for complementing the work on protected areas, which comprise:

1. *Seven national parks*: Kirirom, Phnom Bokor, Kep, Ream, Botum Sakor, Phnom Kulen, and Virachey;

2. *10 wildlife sanctuaries*: Aural, Beng Per, Peam Krasop, Phnom Samkos, Roniem Daun Sam, Kulen-Promtep, Lomphat, Phnom Prich, Phnom Nam Lyr, and Snoul;
3. *Three protected landscapes*: Angkor, Banteay Chhmar, and Preah Vihear; and
4. *Three multiple-use management areas*: Dong Peng, Samlaut, and Tonle Sap.

The three types of PES in Cambodia consist of biodiversity PES, watershed PES, and REDD+ PES (carbon).

The Royal Government of Cambodia—especially the MoE and the MAFF; development partners; international organizations such as Flora and Fauna International, and Wildlife Conservation Society (WCS); local NGOs; local governmental units (provincial, districts/sangkat, commune); and households—have been involved in implementing PES and PES-like programs in Cambodia. In order to protect the natural resources in the country, key laws on protected areas, community forestry, fisheries, economic land concessions, social land concessions, and land ownership have been established and implemented all over the country. In spite of this, a specific PES law or policy has not been developed in Cambodia.

International support for the implementation of PES and PES-like programs, however, has been effected only in targeted protected areas in Cambodia. Within the protected areas, only some villages or families participate and receive profits. In general, private institutions, local government units, the academe, and forest communities in the country have limited awareness and understanding of PES schemes.

Although various tools exist for ecosystem service valuation, the potential use of these tools is still largely unrealized. The payment levels in PES schemes are likely to be derived from a combination of practical factors rather than from a technical evaluation of the economic value that can be attributed to the ecosystem services in question. These factors are likely to include the market price of the ecosystem services, or other factors affecting availability of finance, and crucially the level of payment needed to incentivize the participant, and cover opportunity costs.

Because majority of the PES-like programs are supported by external donors, proper withdrawal and continuity mechanisms should be considered when such support phases out. Some models of PES-like programs in Cambodia (e.g., agri-environment payment schemes, community-based ecotourism schemes, and direct contracts for bird nest protection schemes) could be replicated to other areas because these models not only help farmers to have better living conditions, but they also ensure the sustainability of natural resources. Learning and working together by the local community and NGOs is the foundation for ensuring the continuity of the PES/PES-like programs after the NGO project ends. For example, Chambok Community-Based Ecotourism program, which was introduced by the NGO Mlup Baiting (in Khmer) in 2001, is continuing to serve both local and international tourists through homestead services, restaurants, bird-watching services, and other cultural activities, which are run by the villagers. Both livelihood and natural resources have been notably improved and conserved through this program.

This report presents a review of selected current literature on PES and/or PES-like schemes that have been implemented in Cambodia in order to provide insight on the

status of PES implementation in the country. The reviewed literature consists of scientific studies, NGO documents, and project reports. Local and international NGOs were also visited and interviewed in order to capture the elements of the individual programs. Four programs of PES-like programs in different protected areas and wildlife sanctuaries in Cambodia were chosen for this study: (1) Agri-Environment Payment Scheme in Kulen Prom Tep Wildlife Sanctuary, (2) Conservation Agreement Payment Program in the Cardamom Mountains, (3) Chambok Community-Based Ecotourism Project, and (4) REDD+ Cambodia Carbon Sequestration Project in Oddar Meanchey Province.

2.0 LEGAL BASIS FOR PES

Article 59 of the Constitution of Cambodia states that the “protection and conservation of ecosystems is a priority of the Royal Government of Cambodia” and that “the State shall protect the environment and balance of abundant natural resources and establish a precise plan for the management of land, water, air, wind, ecology, ecological systems, mines, energy, petrol and gas, gems, forest and forest products, wildlife, fish and aquatic resources.” This protection and conservation is parallel with Article 58 as they cover government property and the use of natural resources must be according to the law.

Forest resources are governed by the Law on Forests, which was endorsed in 2002. This law defines the framework for the management, harvesting, use, development, and conservation of forests in the Kingdom of Cambodia. The objective of this law is to ensure the sustainable management of these forests for their social, economic, and environmental benefits, including conservation of biological diversity and cultural heritage.

From a forest resource point of view, PES schemes appear necessary to ensure forest conservation. The Constitution and Forest Law paves ways for the sustainable use of forests, while the protected area policy ensures a minimum forest coverage area. However, forests are under at least four types of management regimes, i.e., Protected Area (PA), Forest Community, Economic Land Concession (ELC), and Social Land Concession (SLC). This then poses the question “*How would PES work in these different property rights settings?*” Likewise, there are also issues related to demarcations of land allocation including land titles.

2.1 Law on Protected Areas

The Law on Protected Areas has a scope of application defined by the provisions of the Royal Decree of 1993 on the Establishment and Designation of Protected Areas. This Law was established for managing and effectively implementing the conservation of biological resources and the sustainable use of natural resources in PAs. It also defines the jurisdiction and responsibilities of the Natural Protection and Conservation Administration of the MoE in the management of PAs. The PA Law, moreover, determines the standards and procedures for managing protected areas and the responsibilities and participation of

local communities, indigenous ethnic minorities, and the public. It also covers the implementation of regional and international conventions, protocols, and agreements on the protection of biodiversity and ecosystem of PAs.

2.2 Law on Community Forestry

Community forestry was legalized when the Forestry Law was passed in 2002, which accordingly provided the basic framework for the involvement of rural communities in forest management. The Community Forestry Sub-Decree describes in detail where and how communities can gain formal recognition of their management rights. There are now around 280 community forestry sites listed on the Forestry Administration's website. A Sub-Decree and Prakas on community forestry have been adopted, and policies on community forest boundary demarcation procedures and specifications have been drawn up. Nevertheless, to date, no community forestry sites in Cambodia have been legally recognized, placing community forests in a tenuous position and reducing the motivation for community forest protection.

Community forestry continues to be discouraged in concession and ex-concession areas. As all aspects of the legal framework for community forestry are now complete, there can be no reason for further delay. There has also been a lack of community involvement in forestry management plans in general, thereby reducing opportunities for forestry's contribution to poverty reduction and ensuring that benefits continue to flow to a small group of elites only. Notwithstanding this, the Community Forestry Sub-Decree Article 12 states that communities under a Community Forestry Agreement may harvest, process, transport, and sell forest products and non-timber forest products in accordance with the Community Forestry Management Plan within five years from the date of approval.

2.3 Law on Fisheries

This law aims to ensure good fishery resource management, aquaculture development, and the management of fishery production and processing. It also aims to promote the livelihood of people in local communities and bring socioeconomic and environmental benefits, including the conservation of biodiversity and natural heritage in the Kingdom of Cambodia (Article 1 of the Fisheries Law of Cambodia 2006). This law extends to all fisheries whether natural, artificial, or aquaculture. The State ensures the rights of local communities to traditional use of fishery resources under the regulations of this law and related laws (Article 2 of the Fisheries Law of Cambodia 2006). Fishery resources include, inter alia, any freshwater and marine organisms, living or nonliving fauna and flora for example, fish, mollusks, amphibians, insects, reptiles, mammals, and other invertebrates that get fertilized in water, planktons, seaweeds, sea grass, coral reefs, and inundated forests including mangroves (Article 4 of the Fisheries Law).

Fishery management falls under the jurisdiction of the MAFF. The management of inundated forests and mangrove forests, which coheres with the lifecycles of fishery resources, falls within the extent of the Law on Fisheries 2006. The State provides for management rights over natural protected areas to the MoE under regulations of the law

on the establishment and delimitation of natural protected areas, the law on environmental protection and natural resources management, and other legislative norms (Article 3 of the Fisheries Law). The MAFF has the right to participate in law enforcement on all illegal fishing activities, which happen in natural protected areas by coordinating with the MoE according to the regulations stipulated in Chapter 14 of the Fisheries Law. These activities will not affect the management of the MoE as stipulated in the law on environmental protection and natural resource management (Article 3 of the Fisheries Law).

2.4 Economic Land Concession (ELC)

An ELC refers to a mechanism to grant private state land, through a specific contract to a concessionaire, to use lands for agricultural and industrial-agricultural purposes as stated in Article 2 of the Sub-Decree on ELCs. ELCs can only be granted over state private land for a maximum duration of 99 years. These concessions cannot establish ownership rights over land. However, apart from the right to alienate land, concessionaires are vested with all other rights associated with ownership during the term of the contract. In 1992, the Cambodian economy transferred from a planned to a free market basis. The Royal Government of Cambodia opened the door for both local and foreign private investments in the agricultural sector. The Royal Government of Cambodia is focusing on investment in economic land concessions for agro-industrial plantations. The major goal of this is to provide free (unused) land for agricultural and agro-industrial plantations and processing for export, which is expected by the government to create jobs and generate income for people living in the rural areas.

2.5 Social Land Concession

An SLC is a legal mechanism established in the Land Law 2001 for the orderly transfer of state private land to private individuals or groups for social purposes, specifically, for residential and family farming as covered by Article 2 of the Sub-Decree on Social Land Concessions. SLCs can be used in several situations in which there is a social need for land and land-use management for special purposes, such as residential land shortages, landlessness, resettlement, distribution of de-mined land, and development of housing and subsistence plots for workers of large plantations. Other situations, in which there is a social purpose for land distribution, include the provision of land to victims of natural disasters, and provision of land for demobilized soldiers and for families of soldiers who are disabled or who died in the line of duty.

SLCs can be used in broader socioeconomic development programs such as social housing, resettlement, community development, restoration after natural disasters, and new land development. An SLC is only one mechanism out of several through which the State can transfer land from its private domain for productive use. This mechanism is very important because it is the only mechanism that is specifically defined as having a social purpose. Therefore, it has a leading role in contributing to the goal of poverty reduction.

2.6 Land Ownership

Highlanders are disadvantaged because their customary tenure is not recognized legally. There is a growing consensus among NGOs working in Cambodia that one solution is for highlanders to obtain legal title to their land, to which—through occupancy and use—they have already established occupancy rights. The application procedures for title in Cambodia, however, are unclear. To date, there is no established system for legally recognizing communal village title to land. The issue is further complicated by the fact that most of the indigenous people lack knowledge on land laws and cannot afford the fees for obtaining land titles. In addition, language can be a problem as they are often only semi-fluent in Khmer and are illiterate. The remoteness of the ethnic minority communities from administrative centers is another drawback. However, precedents for land, water, and forest tenures—which are appropriate to existing agricultural systems—are needed to give indigenous people security over their customary lands.

The indigenous people of Northeast Cambodia maintain agricultural land and other natural resources required for food security under the community management system of the “commons.” These are common areas for resource use, owned and managed by the community for the benefit of the community. The farming land of the indigenous people can be further categorized as a “common property resource.” This describes resources which are co-owned by a group that has mutual rights and obligations over the resource, including the right to exclude nonmembers from rights to the land or resource.

The collection forests tend to be an “open-access resource,” which has no designated owner and is used by several communities. The community management system of the commons is radically different from conventional privatized land ownership. Under the system of the commons, agricultural land is “owned” by a village community rather than by individuals, often identified through natural landmarks, which have been developed over generations such as local forests, mountains or streams. Only members of the village have the right to cultivate within the communal boundaries, and there are often strict taboos or spiritual beliefs against clearing plots within the cultivation boundaries of another village. Specific boundaries between villages are not required unless the cultivation areas between villages meet. Such boundaries are negotiated by the elders from neighboring villages and are validated by sacrifices. Village sites may move, sometimes due to sickness or bad omens, but only within communal village boundaries. If a village splits due to population increase or conflict among elders, the breakaway group will look for new land. The collection forests are considered to be a common resource, accessible to all. Several villages may use the same forest area. The rules and taboos regarding the use of the forest often differ between villages using the same area.

3.0 PES CASE STUDIES

In Cambodia, the PES projects complemented protected areas are the following:

1. *7 National Parks:* Kirirom, Phnom Bokor, Kep, Ream, Botum Sakor, Phnom Kulen, and Virachey;
2. *10 Wildlife Sanctuaries:* Aural, Beng Per, Peam Krasop, Phnom Samkos, Roniem Daun Sam, Kulen-Promtep, Lomphat, Phnom Prich, Phnom Nam Lyr, and Snoul;
3. *3 Protected Landscapes:* Angkor, Banteay Chhmar, and Preah Vihear; and
4. *3 Multiple-Use Management Areas:* Dong Peng, Samlaut, and Tonle Sap

A total of 23 PAs covering 3.3 million hectares (more than 18% of the country) were created through a Royal Decree in 1993 and managed by the MoE. Also a growing number of fish sanctuaries and protected forest areas were established through the MAFF (Grieg-Gran et al. 2008). Through funding and technical support from development partners and through the participation of the Cambodian government (i.e., MoE and MAFF), some PES-like programs were implemented in order to conserve and protect the biodiversity, including the forests, in Cambodia.

To obtain more in-depth information about the design and implementation of these schemes in Cambodia, four case studies of PES-like programs were selected for study. These comprised schemes involving agri-environment payments, a conservation agreement, community-based ecotourism, and carbon sequestration (Figure 1 and Appendix Table 1). The four selected study sites were receiving similar support from external international organizations with participation of local NGOs and the Royal Government of Cambodia. These locations are vulnerable areas due to increased foreign investments.

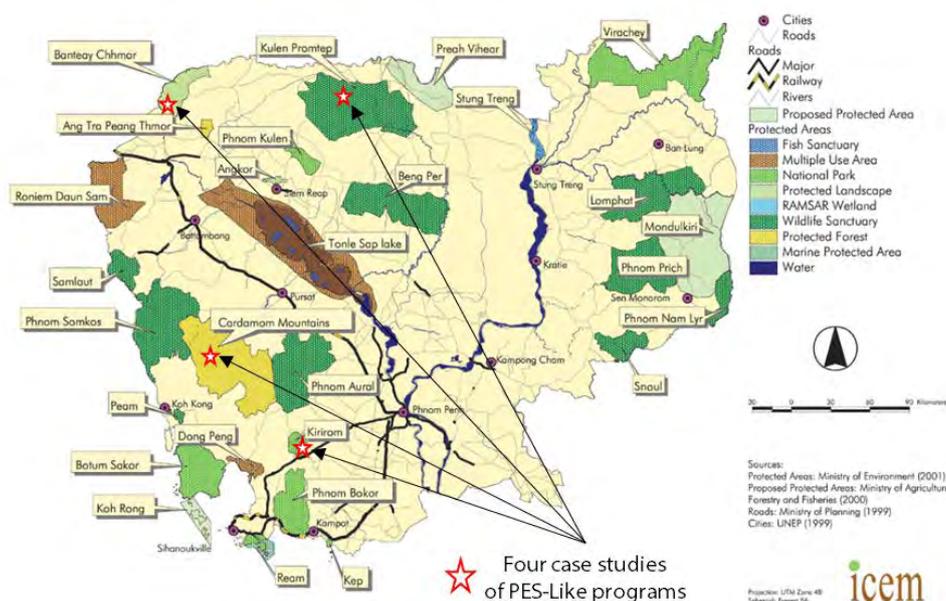


Figure 1. Four selected case studies of PES-like programs in Cambodia

Source: International Centre for Environmental Management (Grieg-Gran et al. 2008)

These case studies are discussed using the following reference terms adopted from Van Noordwijk, Fay, and Parya (2003):

1. **Buyers.** Any stakeholder who recognizes that environmental services are being provided, and who can be morally, legally, or rationally motivated to pay for these services.
2. **Sellers.** Any actor or collection of actors who modifies the landscape; through this modification, they provide environmental services to potential buyers of these services.
3. **Intermediaries.** Institutions or persons who can link the buyers (or potential buyers, to the actors in the landscape and broker agreements for the continuation (or increase) of the supply of environmental services.
4. **Local government.** Institutions or persons who have authority to implement the law and regulations and mete out punishment to a person who does not abide by them. These institutions/persons can be village chiefs, commune chiefs, the police, or responsible government institutions.
5. **Payment scheme.** Any mechanism or institution by which rewards/payments¹ are made available to the intended beneficiaries. Development of a reward/payment mechanism involves identifying who receives the reward or payment, for what reason, when it is made, in what form, who delivers it and the source of the reward. Some examples of mechanisms can include direct payments to communities who use funds for local development, payments to individuals, land tenure conditional upon maintenance of services, and forms of eco-labeling for premium prices.

3.1 Kulen Prom Tep Wildlife Sanctuary

This is a community-based agri-environmental ecotourism payment program, which started in 2007 as an alternative model that could be replicated widely (Appendix Table 1). The design of the program is shown in Figure 2.

¹ Compensation for service, merit or effort, and/or incentive for maintaining or enhancing environmental service functions, received by the sellers or paid for by the buyers of the environmental service(s). Compensation may be made in terms of direct payments, financial incentives, or in kind. Rewards and payments in kind may include the provision of infrastructure, market preference, planting materials, health and educational services, skills training, technical assistance or other material benefits. In addition to indirect and direct monetary payments, rewards can take the form of land tenure security.



Figure 2. Design of the agri-environmental payment program for Kulen Prom Tep Wildlife Sanctuary

Source: Clements et al. (2010)

3.1.1 Actors

Buyers. The buyers of rice production under the agri-environment payment program are hotels and restaurants both in Siem Reap and Phnom Penh. The buyers buy rice from the farmers through the village marketing network. The village marketing network is responsible for purchasing the rice from farmers and verifying that the farmers have respected the conservation agreements, overseen by the Natural Resource Management Committee. The village marketing network then stores the rice at a central location within the village. Transportation, processing, packaging, and marketing and sale of the rice are coordinated by a local NGO, Sansom Mlup Prey (SMP). The SMP organizes the collection of the rice from each of the participating villages, and delivers it to a mill where it is processed. The rice is then packaged and labeled as “Wildlife Friendly,” and delivered to those outlets that have been contracted to sell the rice.

The Wildlife Conservation Society (WCS) Cambodia has received certification from the Wildlife Friendly Enterprise Network for Ibis rice, so the rice can now be marketed under the Wildlife Friendly brand. Ten buyers for the rice have been identified in the tourist market in Siem Reap, including several upmarket hotels. The hotels are Soria Moria, La Residence d’Angkor, Le Meridien Angkor, La Maison d’Angkor, and Shinta Mani; the restaurants are Sugar Palm, the Warehouse, Common Grounds Café, V and A, and Kamasutra. One boutique hotel with three properties in Phnom Penh, the Boddhi Tree, has shown support for the project by purchasing Ibis rice prior to its scheduled availability in the capital city.

Sellers. Under the program, farmers that comply with the village land-use plan and no-hunting rules are allowed to sell their rice, through the village committee responsible for the management of the land-use plan, to a marketing association. The association is able to offer higher prices to the farmers by

1. selling directly to national market centers, bypassing middlemen who previously monopolized the village trade; and
2. selling to tourist hotels under the “Wildlife Friendly” certification system, a new global brand.

The association also provides start-up capital and training in new agricultural techniques. A very large number of families expressed interest in joining the program, but only 38 families had rice of acceptable quality to sell through it. This number is expected to increase rapidly in the future as farmers have started to adopt better agricultural practices.

Intermediary. The intermediary of the agri-environment program is the WCS in partnership with the MoE and the Forestry Administration. The WCS helps to connect the farmers to national and international markets, certifies compliance, and helps to mediate conflicts. Additionally, the WCS provides support for the creation of a local village marketing network and training courses on how to grow new varieties of rice, maintain rice quality, maintain water levels and procure seeds; financial management; stock-keeping; and rice storage. The WCS subcontracts with local NGO partners (e.g., Farmer Livelihood Development) for the implementation of the activities.

Local government. Local enforcement of land-use plan regulations has been observed in the four agri-environment program villages by the village chief and the WCS staff. Local self-enforcement is based on verbal or written contracts between farmers and a committee to stop illegal activities or to relocate rice fields within land-use plans, rather than on stronger punishments such as fines or imprisonment. The percentage of families that have been recorded as violating the land-use plan in each village is less than 8% while three of the four villages have refused to accept immigrants (the fourth is remote and no immigrants have tried to settle there). The effect of the agri-environment program in protecting species is not yet clear as the program has been in operation only since late 2007.

3.1.2 Payment scheme

Payments from the agri-environment program are made directly to individual farmers. However, this payment is conditional on their compliance with the land-use plan and no-hunting rules, which is verified by the village committee and the marketing association. Farmers were offered a price of USD 0.25/kg of rice plus a bonus share of the association profits, representing an initial premium of 200% over the price offered by middlemen (Clements et al. 2010). In response to the competition, middlemen raised their price to USD 0.22/kg and offered to use the villagers' scales (the middlemen's were widely believed to underestimate weights). Despite this, the villagers still preferred to sell through the village committee. Farmer interviews indicated that they preferred to sell to "their own people" rather than to outside middlemen because they trusted the village committee, were treated with respect, the process was transparent, they had control over their own future, and they liked the idea that the profits would come back to the village in the future.

There was considerable income variation between farmers as some had more rice of trade quality than others; the median payment was USD 160, with one farmer earning USD 908. In total, the villages captured about 55%–65% of the end consumer purchase price, with the remainder covering transport, processing, marketing, and certification costs (Clements et al. 2010). Only 38 families had rice of the appropriate quality to sell through the program; this is expected to increase rapidly in future years.

3.2 Conservation Agreement Payment Program in the Cardamom Mountains

Conservation agreements were signed with only a few communes in the Cardamom Mountains in 2006 and then extended to other communes and has since been (re)negotiated annually until the present day. Conservation agreements are one of the Conservation International's (CI) core components in biodiversity conservation in the Central Cardamom Protected Forest (CCPF) (Figure 3). There are three main components in the CCPF management of biodiversity conservation, namely, law enforcement, community engagement and research.

Conservation agreements aim to give communities an additional livelihood option besides just logging and hunting, and to make conservation desirable and beneficial to them. Through conservation agreements, communities have agreed to limit slash-and-burn practices in the forest, stop hunting and setting snares for wildlife, patrol the areas to bar outsider hunters, and protect the nesting sites of the critically endangered Siamese Crocodile and the endangered Asiana Arowana “dragon” fish species. Conservation agreements provide a set of agreed benefits against a list of obligations, and also precise sanctions in case of non-compliance with the conditions.



Figure 3. Map of Central Cardamom Protected Forest (CCPF)

3.2.1 Actors

Buyers. As an NGO, CI is the buyer under the conservation agreement payment program. CI can be both buyer and beneficiary, but it is more of a buyer than a beneficiary. It is the usual case that when the ultimate environmental services beneficiaries (neither domestic nor international) are not identified, the NGO will play the role of both buyer and beneficiary (in terms of objectives). Being a conservation-focused NGO and investing in protection measures in the Cardamoms area, CI has clearly a pro-conservationist approach coupled with humanitarian and community engagement elements.

Sellers. Community members in six communes are the sellers of the environmental services in the program. This is because they have direct impact on resources such as land by their agricultural practices and on biodiversity by hunting for their own consumption and trading. The communes involved in the conservation agreement are: Thmar Dan Pouy (116 families), Tatai Leu (137 families), Russei Chrum (251 families), Chumoab (75 families), and Prolay (183 families) in Thmar Band District in southern CCPF and Osom Commune (270 families) in Veal Veng District in northern CCPF. Since the program has been implemented, about 5,250 people have benefited from it.

Intermediary. CI acts as an intermediary in the conservation agreement payment program. CI directly implements the program in CCPF at grassroots level through a community engagement team.² It contracts with the local Center for Study of Environment and Development of Agriculture for one year of technical support and training to improve agricultural productivity. CI assists the MAFF and the Forestry Administration in CCPF management planning.

Local government. The local government bodies involved in the conservation agreement include the provincial department of the MoE, the provincial department of the MAFF, and local authorities such as village chiefs and commune chiefs supported by the provincial and district level government.

3.2.2 Payment scheme

The payment scheme of the conservation agreement payment program is divided into two categories: the conservation package and the conservation agreement management and monitoring costs. The conservation package is a monetary sum that reflects the opportunity cost of the foregone activities such as forest clearing for farming activities, wildlife hunting, and trading. The conservation agreement management and monitoring costs include patrol staff salaries, administrative salaries of the Natural Resource Management Center (NRMC) committee, patrolling equipment, first aid kits, and individual incentives for confiscated snares and animals.

The decisions on spending the conservation package are taken jointly between CI's community engagement (CE) team and the NRMC members in consultation with the villagers. The benefits are supposed to reflect prominent commune needs and contribute to the commune's development. The main package benefits are provided in kind such as mechanical mules (hand tractors) and spare parts (carts). In some communes, the teachers' salaries are also taken from the conservation package, while it is treated separately as a part of management costs in other communes. For example, in Tatai Leu, contract teachers were not supported by the State as they were on probation so they had asked the students to pay them in rice. The conservation package was used to provide support to teachers and stop students from having to give rice to their teachers. Teachers would get 60 kg of rice costing USD 25 per month from the package instead of receiving rice from their students.

² The engagement team is composed of CI staff, who spends most of their time with the communities implementing the agreements.

Paying an additional salary to resident teachers (USD 25 per month) is also included in the communal benefits. This is to ensure the regular presence of school teachers in the commune and to motivate them to contribute more time to teaching activities. This salary is provided in cash on a monthly basis by CI and reports on teaching hours are submitted by the teachers to the NRMC members.

In order to give the villagers the technical means to restore old rice fields and to increase soil fertility in *chamkars* (farms), mechanical mules or water buffaloes are purchased from the package budget. In this way, CI provides the farmers with the means to adopt the agricultural practices that are in line with the conservation objectives of forestland protection. Communal mechanical mules are managed in user groups (15–20 families per group with a team leader; KHR 10,000 (USD 2.5) daily rent fee for plowing; and KHR 1,000 (USD 0.25) for transportation and petrol; while repair charges are born individually. Patrolling shifts are comanaged by a designated NRMC committee member and a CI CE officer. Patrolling is rotation-based; on the average, each household head (men) participate in patrols one to two times a year. The patrolling teams comprise villagers, one NRMC committee member, and a municipal policeman. The organization of the schedules and monthly reporting is the responsibility of designated NRMC members. To ensure the transparency of the process, the CI’s CE team member travels to the villages once a month to check the reports and pay the patrollers in cash.

3.3 Chambok Community-Based Ecotourism Project

Chambok is approximately 110 km from Phnom Penh City. The National Road No. 4 from Phnom Penh to Sihanoukville passes by Kirirom National Park. The drive from the capital to Chambok takes about 2.5 hours regardless of the season. The Chambok Community-Based Ecotourism (CBET) site (Figure 4) shares its borders with Kirirum National Park and is well known for its spectacular scenery and educational nature walks. Attractions include a 3.5-kilometer hike to an amazing 40-meter waterfall, bird-watching and wildlife viewing, an ox-cart ride, homestay in the village and enjoying the Cambodian rural lifestyle. The project received both technical and financial support from Mlup Baiting, which is a local environmental NGO that launched the project in 2001 and ran it until 2004. Since then, the project has been managed by the Chambok CBET Management Committee members.

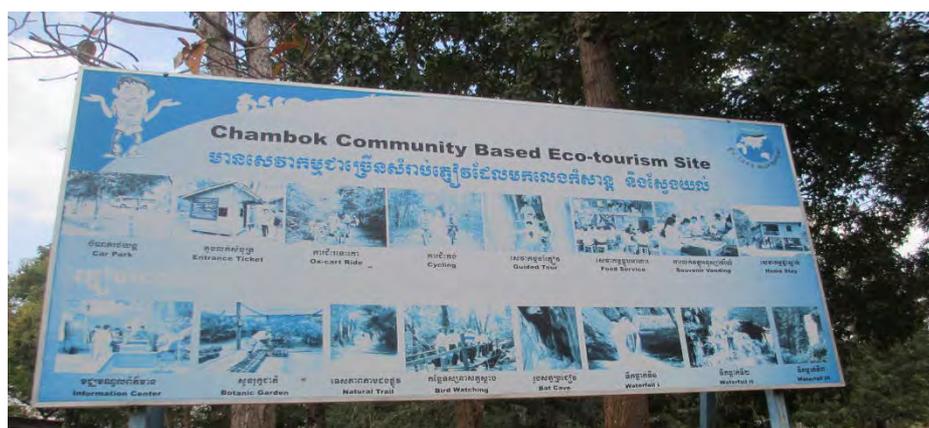


Figure 4. Chambok Community-Based Ecotourism Program

3.3.1 Actors

Buyers. The tour companies and domestic and foreign visitors are the buyers of the environmental services in Chambok CBET. By 2013, there were eight buyer tour companies: Interpit, Bong Vorya, Local Adventure, Apsara, Angkor World, Bepi Tour, Indo China Services, and Kompol Adventure. Tourists were categorized separately as domestic tourists and foreign tourists of 15,772 people and 2,916 people, respectively.

Sellers. The local community members of 545 households in Chambok commune are the sellers of the environmental services in the Chambok CBET program. These environmental services include maintaining the landscape beauty of the waterfall, bird-watching, homestay, children shows, trekking, cycling, and cultural activities such as weaving, organic farming, and art performances.

Intermediary. The Mlup Baitong organization was the initiating, implementing, and coordinating agency for Chambok CBET, which was launched in 2001. At the start of this program, Mlup Baitong dispatched some of its staff (i.e., a program coordinator, a project officer and a project assistant) to manage the program. Mlup Baitong sometimes contracted external experts to deliver training or other required work that was beyond its capacity. It also acted as coordinator linking the local community to other institutions such as governmental agencies or NGOs. It further conducted conflict resolution between communities or between the community and public authorities in some instances.

To ensure the continuation and sustainable management of Chambok CBET, before Mlup Baitong withdrew from the program in 2004, it provided technical inputs to the management committee members and service providers. Inputs included training on environmental issues, facilitation skills, problem-solving skills, report writing, micro-project/business design, project implementation and management, implementation of relevant laws, forest protection methods, and tourism service techniques and management. The last of these included teaching community-based ecotourism concepts, bookkeeping, accounting, financial management, tour guiding, first aid, hygiene and sanitation, and basic English conversation and computer skills. In addition, the concept of self-help groups was also introduced to the women's association. Techniques of micro project/business designing, implementation and management have been critical inputs provided to management committee members. After Mlup Baitong withdrew in 2004, the Chambok CBET project has been operated and managed by the management committee members.

Local government. The local government units involved in the Chambok CBET program are mostly at the provincial level, in particular, the Forestry Administration Cantonment of Kampong Speu and the provincial Governor's office. The village chief and commune chief were not actively involved. For example, when any illegal logging activities in the Chambok CBET were discovered, the members and management committee of the project would try to stop these, but the authorities were slow to act.

3.3.2 Payment scheme

The beneficiaries of the Chambok CBET are the approximately 500 households in nine villages of Chambok commune. The beneficiaries can be divided into three main categories of management committee (MC) members, service providers, and community members. The MC is made up of 13 elected members while the service providers include entrance fee collectors, tour guides, ox-cart drivers, homestay owners and coordinators, restaurant workers, and souvenir vendors. The last two are separately supervised by the women's association, which is composed of 13 women's self-help groups. About 100 men and 200 women from 300 households have been employed in ecotourism services on a voluntary and rotational basis.

In total, the revenue of Chambok CBET in 2013 was KHR 156,500,000. The revenue came from entrance fees (70%), parking fees (14%), and ox-cart rides (10%), while the remaining 6% were from souvenir sales, tourist guide services, homestays, and arts performances by primary school children. On average, the non-English speaking villagers could earn an average income of approximately USD 5 per day and English-speaking members could earn USD 15 a day. The individual earnings are very small as each villager needs to work on a rotational basis among the 545 households. The remaining community members benefit from community development activities through a community fund raised by the ecotourism project and from better access to non-timber forestry products, which have been well protected and successfully controlled by the program.

3.4 REDD+ Cambodia Carbon Sequestration Project in Oddar Meanchey Province

The Royal Government of Cambodia and the Forestry Administration, along with Pact, Terra Global Capital and Community Forestry International (all NGOs) developed the first Cambodian "avoided deforestation" project in 2008. The project involves 13 community forestry groups, comprising 58 villages, which protect 67,853 ha of forestland in the northwestern province of Oddar Meanchey (Figure 5).



Figure 5. Map of Sorng Ruka Vonn community forestry site

The project will be one of the first to use a new methodology developed by Terra Global Capital for submission under the Voluntary Carbon Standard combined with the Climate Community and Biodiversity Standards, which were developed by the Climate, Community & Biodiversity Alliance, a partnership and initiative of five international nongovernmental organizations including CI, CARE, Rainforest Alliance, The Nature Conservancy, and the WCS. The project is expected to sequester 7.1 million metric tons of carbon dioxide (CO₂) over 30 years, demonstrating how developing countries can generate income from carbon markets and positively impact climate change.

The Sorng Ruka Vonn Community Forestry was initiated in 2000 and was approved by the Royal Government of Cambodia through the Forestry Administration in 2001. The Sorng Ruka Vonn Community Forestry area covers 18,261 ha. It has played an important role in conserving the forest for carbon sequestration under the Oddar Meanchey REDD Project.

The project seeks to retain and increase carbon stocks in the area as well as enhance the hydrology in the upland watersheds of the Tonle Sap Basin and conserve endangered biodiversity. Carbon financing will be used to support rural communities to develop a range of livelihood activities including non-timber forest product enterprises, community-based ecotourism infrastructure, and water resource development.

3.4.1 Actors

Buyers. The Danish International Development Agency (DANIDA), the UK Department for International Development (DFID), the New Zealand Agency for International Development, and the Clinton Climate Initiative are the main funders of this project. Terra Global and PACT Cambodia are the buyers of Oddar Meanchey carbon credits. These two buyers were ready to spend nearly USD 1 million on the first batch of carbon credits from Oddar Meanchey. However, when the 2013 May 20 deadline they had set for the government to sign off on the carbon credit deal came and went without such signature, they walked away. The failure to sell the carbon credits could hurt the country's chances of attracting other buyers to a project that could potentially generate tens of millions of dollars over the next 30 years by protecting what is left of the country's forests.

Sellers. The Royal Government of Cambodia has confirmed its high-level commitment to sustainable forest management by local communities. Government Decision No. 699 was issued in May 2008 to support the project's success. The Forestry Administration is the assigned agency to sell forest carbon credits in Cambodia. Carbon credits will be used to: (1) improve forest quality, (2) provide maximum benefits to local communities, which participate in the project activities; and (3) study the potential area for new REDD projects in Cambodia. The Forestry Administration is mandated to participate in the project design, implement project actions, administer project funds, and conduct monitoring activities. In addition, the Forestry Administration has the responsibility to support forest protection and enforcement, guarantee security of the community forestry areas, build the capacity of local communities, organize stakeholder consultations, conduct forest inventories, and to see to the daily administration of all project activities.

Intermediaries. The intermediary in the Oddar Meanchey project are the PACT, Children’s Development Association, Terra Global Capital, Clinton Climate Initiative, Sonnenschein Nath & Rosenthal LLP, Community Forestry International, Technical Working Group on Forest & Environment, Buddhist Monks’ Association, and the communities of Oddar Meanchey. PACT assists the Forestry Administration in the coordination of project design and activities. It liaises with the various stakeholders to ensure accountability, transparency in use of revenues, and good governance. It also provides various training courses to local communities and offers stakeholder consultation and integration services. PACT further designs and conducts social appraisals and forest inventories.

The Children’s Development Association supports the implementation of project action in the field and also supports the training of local communities, and stakeholder consultation, and integration activities. Terra Global Capital helps with carbon calculations, development of project design documents, creation of management systems to gather monitoring data, technical assistance, designing forest inventory plans, and the monetization and marketing of project carbon credits as a broker.

The Clinton Climate Initiative helps to provide technical and financial support to implement the activities of the project. Sonnenschein Nath & Rosenthal LLP provides legal advice on emission reduction purchase agreements. Community Forestry International mediates in project identification and in design, and research, and monitoring. The Technical Working Group on Forest & Environment supports project review and control, and approval of future project actions. The Buddhist Monks’ Association helps to facilitate cooperation with the Sorng Ruka Vonn community. Communities of Oddar Meanchey help to protect and manage the forest/community forestry resources and assist in the planning and implementing of the activities to improve livelihoods and forest quality.

Local government. The local authorities in Oddar Meanchey province have actively supported the project, especially in cases of illegal logging activities in the project site. Moreover, the local authorities also participate in the demarcation of the community forestry boundary, resolving conflicts in the community forestry area, reporting to local Forestry Administration officials on illegal forest activities, and protecting the community forest.

3.4.2 Payment scheme

This project supports sustainable forest management and livelihood development in Oddar Meanchey province by providing financing through carbon credits generated through forest protection. The project will not only assist rural people to gain legal tenure over local forests, but it will also create a 30-year income stream that will significantly enhance household livelihoods and natural resource management capacity.

Of the tens of millions of dollars that the project aims to generate over the next 30 years, roughly half the money earned from selling the carbon credits would go back to the local communities to help them protect their forests and keep up their efforts to improve local living conditions with new schools, clinics, roads and the like. Although the carbon credits from the project have not yet been bought, PACT has been paying the community forest groups patrolling the sprawling project area in Oddar Meanchey with funds from donors.

The Sorng Ruka Vonn Community Forestry

The Sorng Ruka Vonn Community Forestry was initiated in 2000 and was approved by the Royal Government of Cambodia, through the Forestry Administration, in 2001. The Sorng Ruka Vonn Community Forestry covers a total land area of 18,261 ha. The Sorng Ruka Vonn Community Forestry has played an important role in conserving the forest for carbon sequestration under the Oddar Meanchey REDD Project. The community forestry members have benefited through the collection of non-timber forest products and through patrolling the forest. On average, a member can collect non-timber forest products amounting to about USD 8 per month and a daily wage of approximately USD 5 per time. An incentive of an additional USD 5 would be made if s/he reports any case of illegal logging by local villagers or outsiders. The payments are made by the director of the community forestry.

*Active Monk from
Sorng Ruka Vonn Community Forestry
January 15, 2014*

4.0 EVALUATION OF PES SCHEMES IN CAMBODIA

The PES concept is defined differently by policy makers and practitioners like NGOs who engage in conservation (Milne and Chervier 2014). In addition, majority of academics, researchers, students (both university and general education), civil servants, and villagers do not fully understand the concept of PES because it is defined according to the circumstances (Milne and Chervier 2014).

To date, there are no legal documents for the implementation of PES or PES-like projects in Cambodia (Sarah and Colas 2014). On the other hand, the idea of environmental services was integrated into key policies and strategies of the Royal Cambodia Government such as the National Green Growth Roadmap (MoE 2009) and the REDD+ Readiness Forestry Program for 2010–2029 (RCG 2010). Conservation NGOs and the MoE have been in dialogue to find a way to establish a PES law and policy framework.

The main government institutions engaging in PES-like schemes are the MoE and the MAFF, which includes the Forestry Administration. Some universities, especially public universities, are involved in doing research on PES mainly through the support of international donors. Some research studies are cross-country projects.

Most of the PES-like projects in Cambodia have been implemented by NGOs through funds from international donors like the Ministry of Foreign Affairs of Denmark (DANIDA), Japan International Cooperation Agency, international and regional research centers, and several UN agencies. The types of PES-like in Cambodia are biodiversity for the protection of endangered bird species and ecosystems and conservation of forests, watershed programs for refilling groundwater and sediment-free water flow, and REDD+ for avoided deforestation (Sarah and Colas 2014).

This report has presented a study of four PES-like programs in different protected areas and wildlife sanctuaries in Cambodia. The key challenges to the successful implementation of the PES-like schemes are poor knowledge on PES by key agencies, namely, policy makers, stakeholders, and beneficiaries; limited research on PES; dependency on external donors; and lack of political support especially from the government. Because majority of the PES-like programs are supported by external donors, proper withdrawal and continuity mechanisms should be considered when such support phases out.

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APPENDIX

Table 1. In-depth analysis of four PES-like schemes in Cambodia

Site	Agri-Environment Payment Scheme in Kulen Prom Tep Wildlife Sanctuary	Conservation Agreement Payment Program in the Cardamom Mountains	Chambok Community-Based Ecotourism Program	REDD+ Cambodia Carbon Sequestration Project in Oddar Meanchey
Type of program	Government-financed	Government-financed	NGO-financed	Government-financed
Ecosystem service/s	Biodiversity conservation	Biodiversity conservation	Landscape/seascape beauty	Carbon sequestration
Paid for	Conservation and protection of biodiversity and forest	Conservation and protection of biodiversity and forest	Recreation benefit	Carbon sequestration
Location	Siem Reap and Preah Vihear Province	The mountain range extends along a southeast-northwest axis from Koh Kong province on the Gulf of Thailand to the Veal Veang district in Pursat province, and is extended to the southeast by the Dâmrei (Elephant) Mountains	Phnom Srouck district in Kampong Speu province	Oddar Meanchey province
Area size (ha)	402,500	4,400,000	1,260	67,853
Status	Ongoing	Ongoing	Ongoing	Ongoing
Initiator	MoE and MAFF with support from WCS (international NGO) and Sam Veasna (local NGO)	CI, EDF, NWF, NRDC, Nature Conservancy, Sierra Club, UCS, WCS, Wildlife Alliance, and the Cambodian Government's Forest Administration	Mlub Baitong (NGO) at the beginning with support from international donors like UNDP The Kampong Speu Governor strongly supports this project	PACT Cambodia

Table 1 continued

Site	Agri-Environment Payment Scheme in Kulen Prom Tep Wildlife Sanctuary	Conservation Agreement Payment Program in the Cardamom Mountains	Chambok Community-Based Ecotourism Program	REDD+ Cambodia Carbon Sequestration Project in Oddar Meanchey
Buyers	Local market, hotels in Siem Reap province and Phnom Penh (private sector), international and local tourists	Wildlife Alliance and other NGOs	International and local tourists	Terra Global and PACT Cambodia funded by DANIDA, UK-DFID, NZAID, and CCI
Sellers	Farmers that comply with the land-use plan and no-hunting rules are allowed to sell their rice through the village committee responsible for the management of the land-use plan to a marketing association	Community members in six communes: Thmar Dan Povv (116 families), Tatai Leu (137 families), Russei Chrum (251 families), Chumoab (75 families) and Prolay (183 families) in Thmar Band district in southern CCPF and Osom commune (270 families) in Veal Veng district in northern CCPF	545 households in Chambok commune	Royal Government of Cambodia and local villagers in the area
Intermediaries	WCS in partnership with MoE, FA, and local NGO Sam Veasna, and the private sector	Wildlife Alliance and US-based conservation NGO in partnership with the Cambodian government's Forestry Administration	Mlub Baitong (NGOs) at the beginning with support from international donors like UNDP The Kampong Speu governor strongly supports this project	PACT, CDA, Terra Global Capital, CCI, Sonnenschein Nath & Rosenthal LLP, CFI, TWG-F&E, Buddhist Monks' Association, and communities of Oddar Meanchey

Table 1 continued

Site	Agri-Environment Payment Scheme in Kulen Prom Tep Wildlife Sanctuary	Conservation Agreement Payment Program in the Cardamom Mountains	Chambok Community-Based Ecotourism Program	REDD+ Cambodia Carbon Sequestration Project in Oddar Meanchey
External donors	WCS, Edith McBean, UN-GEF, UNDP, DANIDA, UK-DFID, IUCN-Netherlands, and the Jeniam Foundation	CI, CEDAC	UNDP and Mlob Bai Tong (NGO)	DANIDA, UK-DFID DFID, NZAID, and CCI
Major obstacles to implementation	Park too large to manage Poor participation from district and forest authorities	Weak governance Poor participation from district and forest authorities Facing issues related to land concessions	Weak governance Poor participation from district and forest authorities	Weak governance Complicated documentation process MOU not approved and signed by the government
Linked laws/policies	Law on Nature Protection Area (2008); Law on Community Forestry; Laws on Fisheries, Economic Land Concessions, Social Land Concessions, and Land Ownership	Law on Nature Protection Area (2008); Laws on Community Forestry; Laws on Fisheries, Economic Land Concessions, Social Land Concessions, and Land Ownership	Law on Nature Protection Area (2008); Laws on Community Forestry; Laws on Fisheries, Economic Land Concessions, Social Land Concessions, and Land Ownership	Law on Nature Protection Area (2008); Laws on Community Forestry; Laws on Fisheries, Economic Land Concessions, Social Land Concessions, and Land Ownership
Mode of payment	Service fees from ecotourism activities like bird-watching, homestay, cooking, and doing laundry, etc., and annual funding from WCS.	Annual payments based on opportunity costs Entrance fees, guide fees, food charges, homestay charges, guesthouse charges, bicycle and boat fees, handicraft sales, and Sothun Lodge charges	Entrance fees, guide fees, food charges, homestay charges, ox-cart rides fees, handicraft sales and annual funding from WCS	Carbon credits generated through forest protection over a 30-year income stream

Table 1 continued

Site	Agri-Environment Payment Scheme in Kulen Prom Tep Wildlife Sanctuary	Conservation Agreement Payment Program in the Cardamom Mountains	Chambok Community-Based Ecotourism Program	REDD+ Cambodia Carbon Sequestration Project in Oddar Meanchey
Payment rates	<p>Rice price (bought at a guaranteed price)</p> <p>Bird-watching fees (USD 30 per person if all key species are seen and USD 15 if only a subset is seen)</p> <p>Protecting nests at a rate of USD 2/day</p>	<p>Guesthouse (USD 5 per room for two persons, USD 1 for an extra person in the room);</p> <p>Homestay (USD 3 for one person, USD 5 for two persons)</p> <p>The price for a night's stay plus 1 dinner: USD 5 for one person or USD 8 for two persons. Sothun Lodge: There are 4 twin en-suite individual bungalows and 4 attached rooms.</p> <p>Price: USD 20 per bungalow, USD 15 for room with twin beds, or USD 13 for room with double bed.</p>	<p>Entrance Fees: International = USD 3 /pax Cambodian = KHR 1,500</p> <p>English-speaking guide: USD 15 /day</p> <p>Khmer-speaking guide: USD 5 /day</p> <p>Picnic lunch: USD 4 /person</p> <p>Homestay: USD 4 /person per night</p> <p>Traditional Dancing: USD 20 /performance,</p> <p>Cooking Classes: depending on number of participants</p> <p>Bicycle rental: USD 1.50 /day</p> <p>Women's Restaurant: Breakfast = USD 3 /person (USD 2 /person for a group of 6 or more)</p> <p>Lunch = USD 4 /person (USD 3 /person for a group of 6 or more)</p>	<p>Tens of millions of USD over 30 years</p>

Table 1 continued

Site	Agri-Environment Payment Scheme in Kulen Prom Tep Wildlife Sanctuary	Conservation Agreement Payment Program in the Cardamom Mountains	Chambok Community-Based Ecotourism Program	REDD+ Cambodia Carbon Sequestration Project in Oddar Meanchey
Payment rates			Dinner = USD 4 /person (USD 3 /person for a group of 6 or more) Tea/Coffee = FREE Chilled drinks Bottled water = KHR 1,000 (USD0.25) For a can of juice, soda, or beer = USD 1.00. Homestay = USD 4 /person per night Visitors Center = hammock rental USD 0.50	

Notes: CCI = Clinton Climate Initiative; CCPF = Central Cardamom Protected Forest; CDA = Children's Development Association; CEDAC = Center for Study of Environment and Development of Agriculture; CFI = Community Forestry International; CI = Conservation International; DANIDA = Danish International Development Agency; DFID = UK Department for International Development; EDF = Environmental Defense Fund; FA = Forestry Administration; IUCN = International Union for Conservation of Nature; MAFF = Ministry of Agriculture, Forestry, MoE = Ministry of Environment; MOU = Memorandum of Understanding; NWF = National Wildlife Federation; NRDC = Natural Resources Defense Council; NZAID = New Zealand Agency for International Development; TWG-F&E = Technical Working Group for Forest & Environment; UNCS = Union of Concerned Scientists; UNDP = United Nations Development Programme; UN-GEF = Global Environment Facility of the United Nations; WCS = Wildlife Conservation Society

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