



An Assessment of the Natural Resources of Ang Trapeang Thmor and Its Impact on the Livelihoods of Pongro and Sambour Villages

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Abstract Ang Trapeang Thmor (ATT) is a protected area (PA) which history dates back to the late 1970s with the creation of a huge reservoir for rice irrigation during the Khmer Rouge reign. The designation of ATT as a crane sanctuary in 2000 led to changes in use and management of resources around the area. This study sets to identify the local livelihood strategies in Pongro and Sambour and to define the level of participation, acceptance and understanding of the need for conservation of the Protected Area. Some methods have been selected to collect necessary data such as informal interviews, participatory rural appraisal (PRA) such as a drawing exercise with school children on environmental education and children's perceptions, awareness on ATT, and nature. Furthermore, focus group discussions were conducted with two groups of villagers separately. The findings reveal that a very common practice of households at Pongro and Sambour were wet season rice cultivation in ATT, livestock breeding, vegetable growing, collecting NTFP and fishing in ATT. The general perception of the villagers on ATT is negative probably because they passively participate in the management of it and due to the lack of understanding of the aim of the conservation project. There are conflicts between Pongro and Sambour opposed to the villages south of the main gate of the reservoir over water levels on the reservoir. Water levels and recent increase in cassava prices have led to illegal encroachment into a state forest East of ATT. However the conservation of ATT and the surrounding natural resources still present opportunities in connection to tourism and community forestry that can be beneficial to the villagers of Pongro and Sambour.

Keywords conservation, Ang Trapeang Thmor, conflicts, livelihoods, natural resources, community participation

INTRODUCTION

Banteay Meanchey province is situated on the Thai border in north-western Cambodia and its capital province is named Sisophon. This province is poor and there are still many unexploded mines in the fields and forests of the province. Ang Trapeang Thmor is located in Phnom Srok district, Banteay Meanchey province, about 80 km northwest of Siem Reap town. The protected area covers about 12,650 ha consisting of a large lake, lowlands and forest (WCS, 2007). It consists of a large reservoir of water contained by 11 km and 9 km long dykes to the south and east, respectively. The southern dyke has three water gates with ten decaying Chinese-made sluices. The reservoir covers less than 1,000 ha during the dry season but expands to cover most of the reserve during the late rainy season (August - October). The PA is a huge reservoir created by forced labor during the

Khmer Rouge regime, which harbors a unique wetland now. The reservoir harbors more than 200 species of other birds, of which 18 have been classified as globally threatened or globally near threatened. In February 2000, a Royal Decree was signed establishing a Sarus Crane Conservation Area. Soon after the decree was passed, a local conservation team was set up with the technical and financial support of the Wildlife Conservation Foundation (WCF) and International Crane Foundation (ICF).

METHODOLOGY

The objective of this study is to identify the local livelihood strategies in Pongro and Sambour villages and define the level of participation, acceptance and understanding of the need for conservation of the PA in Pongro and Sambour villages. The field study was conducted from 7th - 19th March 2009 (duration 12 days) in Ang Trapeang Thmor, Poey Char commune, Phnum Srok district, Banteay Meanchey province. We had done our study in Sambour and Pongro villages which are situated around PA. To achieve this objective, some methods have been designed such as semi structured interviews, transect walk, Participatory Rural Appraisal, questionnaire surveys, and GPS mapping to collect necessary data.

RESULTS

Local Livelihoods

The people living around ATT are strongly depended on natural resources. The state of the natural resources directly affects local people's livelihoods. In this part, the livelihood of the villagers is assessed; both concerning how they are affected by the fact that they live on the border of ATT and how the local livelihoods are affecting the environment in and around ATT. Fig. 1 shows the distribution of livelihood strategies among the households in Pongro and Sambour. As it can be seen, most households apply wet season rice cultivation in ATT and livestock breeding. The most common livestock is hens and chickens, followed by cows, ducks and pigs. Only few households have water buffalos. Only three households had their livestock grazing in ATT, but of the 11 collecting NTFP in ATT most of them collect fodder for the livestock in ATT. Also 68% of the households are fishing in ATT making it a very common practice. Only three households cultivate cassava in the state forest to the east of the villages and two cultivate sweet potato and maize in the forest.

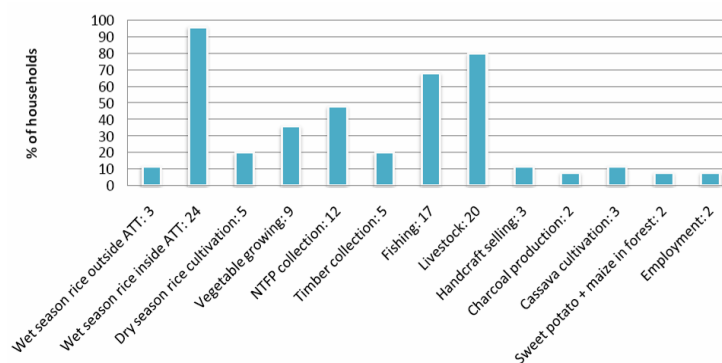


Fig. 1 Livelihood strategies that the households applied

Local participation in conservation

The level of participation and environmental understanding among the villagers has been assessed through questions about their awareness of the Wildlife Conservation Society's (WCS) presence in the area. The majority (86%) of the villagers from Sambour and Pongro have heard about the WCS (refer to Fig. 2). In most cases information about the NGO has been provided by the authority

(54%), referring to the local village chief or commune chief. Nonetheless, 29% of the villagers have heard about the WCS from the organization itself and 14% heard about the NGO from their neighbors.

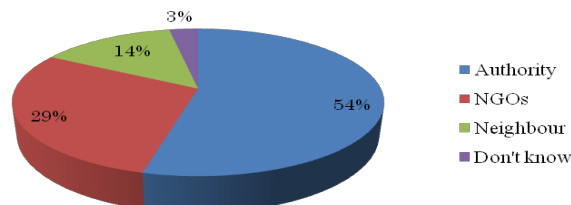


Fig. 2 The results of the questionnaire “Have you heard of WCS, and if so, from where?”

There is a general confusion about whether WCS has actually been providing specific training courses on conservation and sustainable use of the area. It is equally not clear whether they have invited villagers for information meetings or if information and “training” has simply been a part of the village meetings among other important subjects. Therefore, when villagers mention the training courses and the meeting they have been participating in, this might very well refer to the same activity. 21% of the villagers say that they have been participating in a training course, while 46% (out of the 24 persons who had heard about the WCS) has been participating in any kind of activity in relation to ATT and WCS (which may include training courses). 31% of the villagers participated in the planning of ATT while 69% attend meetings about the PA. Regularly, from these results, it can be said that although the villagers participate in these activities at a passive level, over half of them take part in the meetings related to ATT. This means that over half of the villagers have an idea, based on these meetings, of what management activities have been implemented in ATT.

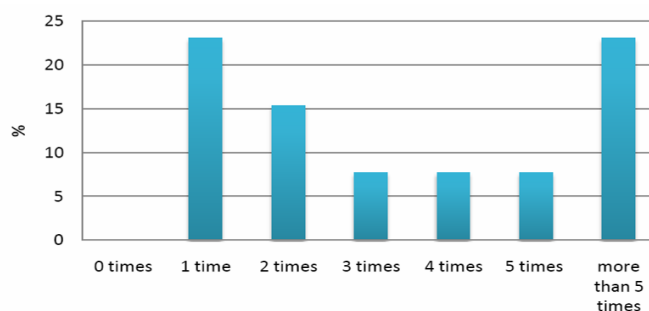


Fig. 3 Percentage of villagers who attended meetings

Some villagers did not participate in the previous meetings about conservation. When they were asked about the reason, the answers were; lack of time (45%) or lack of information (55%), further underlining the point that not everyone has an opportunity to participate.

Perceptions

The different perceptions in Table 1 both positive and negative were expressed by different villagers.

Table 1 Positive and negative perceptions expressed by villagers

Positive perceptions:	Negative perceptions:
<ul style="list-style-type: none"> - Likes ATT because of sustainability and ecology conservation - Likes the birds - Very good, because they can still do farming, fishing, etc., inside the PA 	<ul style="list-style-type: none"> - Most villagers like it. However, if they can benefit from it, then it would be good. Overall, though, they have lost a lot of land. - No idea about the PA, but the water level is a problem. - The birds destroy the rice. - It is good for nature, good for wilderness. Not good for villagers though. Most villagers are unhappy. - Doesn't like the lake at all. - Eco tourism is good, but the problem of the flooded fields since 2003 decreased the rice yield.

Further livelihood opportunities

Despite the conflicts observed in the use, management and conservation of ATT and the surrounding areas, the natural resources still offer other opportunities for the local livelihoods. Apart from the traditional livelihood activities of wet season rice cultivation, fishing, collection of NTFPs and most recently cassava cultivation, there are a number of other opportunities related to tourism and community forestry.

Tourists are not new to the area. The study investigated the attractiveness of the area for tourists before and after it was declared a PA. 20% of the respondents think they saw tourists before the area was declared a PA. Meanwhile, 48% of the respondents think they saw tourists in the area only after it was declared a PA. Fig. 4 presents the various categories and their percentages.

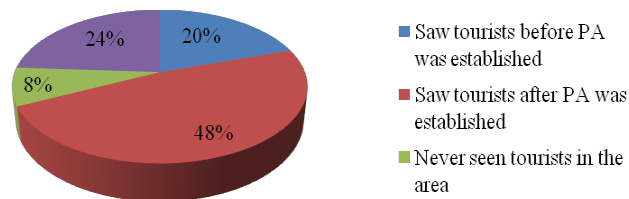


Fig. 4 Respondents' views on tourists in the area before and after PA was established

The general perception of tourism in the area is very good. 80% of the respondents think it is a good area for tourist though only 16% actually know how they can be benefited from tourism. Even though tourists visit the area, so far there is no benefit from tourism to Pongro and Sambuor as none of the respondents have ever sold any items or benefited from the largesse of the visiting tourists.

SWOT analysis

Table 2 presents a synthesis of the analyses of the result in the form of a SWOT

Table 2 SWOT analysis of ATT

STRENGTHS		WEAKNESS	
-	Biodiversity conservation	-	Flooding of rice fields
-	Reservoir for irrigation and water utilization	-	Food insecurity
-	Fishing	-	Field difficulties
		-	Passive participation by local communities
OPPORTUNITIES		THREATS	
-	Tourism	-	Conflict in water management and utilization
-	Community forestry	-	Increased flood hazard
-	Increase of biodiversity	-	Illegal occupation of adjacent forest
-	Training programmes from WCS	-	Destruction of rice fields by birds
-	Sustainable natural resource management	-	Water levels threatens crane habitat

DISCUSSION

The management of ATT certainly affects the villagers in Sambuor and Pongro. This becomes clear when the villagers mention their flooded rice fields and the fact that they are forced to grow cassava in the forest. When asked questions on ATT, the villagers often refer to the floods in PA. The villagers still blame the conservation project and the WCS.

As mentioned above, several conflicts were found in the area. Due to that, the pressure on the natural resources in ATT was not as high as expected. A question like: "Have you seen any illegal activities in the protected area?" clearly indicates expectations about discovering illegal activities (hunting, logging and NFTP collection), performed by poor villagers, who were limited in their opportunities, and did not have any other choices. However, this was not the case, and fewer illegal activities than expected were reported, which did not make this issue that important.

Concerning the opportunities for the villagers to improve their livelihood and income possibilities, which were not considered initially, they were discovered during the fieldwork undergone. Tourism seems to be the most obvious opportunity although a lot of efforts still need to be put into the area, to attract international tourists. The international tourists though, have already started visiting the area. The guesthouse in Pongro may enhance the activity. The natural resources in ATT were initially expected to produce a positive effect, since this is the aim of the conservation project.

CONCLUSION

In 2000, the villagers of Pongro and Sambuor experienced changes in the size of their fields for rice cultivation because they both were within the designated PA. This led to the reduction at their rice yields and made effect on the livelihoods. However, the situation has been affected negatively with the flooding of the rice fields because of the closure of the main gate. The management of water resources of the reservoir is in the center of a conflict between Pongro and Sambuor. The land in ATT is officially owned by the state; however, the villagers cultivate the land without legal rights. The high water levels and the recent increase in cassava prices have led to the illegal encroachment on the forest to the east of ATT.

With respect to ATT and its management, the general perception of the villagers is negative. This is partly because WCS unilaterally manages ATT and only inform the villages of what has been decided as well as the fact they see ATT as the cause of their flooded rice fields. The level of participation by the villagers is limited to information meetings which is equal to *passive participation*. Even though they have a negative perception of ATT, they are generally aware of the importance of conservation. However, ATT and the surrounding resources have a potential to sustain the local livelihoods of Pongro and Sambuor. These potentials can be harnessed from tourism and community forestry.

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