



COMMUNITY PERCEPTION ON SOCIO-ECONOMIC BENEFITS FROM PROTECTED AREA: A COMPARATIVE STUDY BETWEEN CAMBODIA AND CHINA

Sovanchandara Heng

School of Economics and Management, Beijing Forestry University
No.35, Tsinghua East Road, Haidian District, Beijing, China 100083 website: <http://www.bjfu.edu.cn>
Telephone: +8615810815784 Email: Sovanchandara@yahoo.com

ABSTRACT

The paper discusses the comparison of level of satisfaction towards the socio-economic benefits from protected areas between Cambodia and China. Socio-economic benefits from protected areas here refer to eco-tourism, firewood, timber, NTFPs, water resources and compensation. Moreover, the paper also describes some differences in protected areas management within the two countries. It concludes that the level of satisfaction in Cambodia is medium since the benefits from which local community receives are not so large. In China, the level of satisfaction is low because the benefits from protected areas are too small for local community. The paper recommends that both Cambodia and China should involve more local community in the decision making on protected areas management. Moreover, both countries should find a good solution in distributing fairly the benefits receiving from protected areas.

KEYWORDS: Protected Area; Nature Reserve; Community; Zonation; Eco-tourism; NTFPs; Compensation, *etc.*

INTRODUCTION

Protected areas play great roles in the national and international conservation strategies. For many functions, they act as refuges for species and ecological processes and provide space for natural evolution and future ecological restoration by conserving species until management elsewhere is modified and suitable for their existence in a wider landscape or seascape, for instance (Stolton & Dudley, 2010). According to IUCN (1994), protected area has been defined as an area of land and/or seas especially dedicated to protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means. To some extent, economic benefits from protected areas at a local scale may indirectly originate from investment by government or non-government actors in different types of infrastructure (school, health center etc.), in the provision of services (e.g. agricultural development and small business facilitation), or in direct subsidies (payments). In addition, the direct economic benefits from protected areas may derive from employment in tourism-related enterprises (Ezebilo & Mattsson, 2009). Correlation between benefit and positive attitude towards conservation of natural resources has been endorsed by many cases (Abbot et al., 2001). Establishment of a protected area may also induce some negative externalities such as a decrease in land area for farming and collection of non-timber forest products. It may lower income from these activities for the local communities who rely on these resources for sustenance. Other negative impacts from inception a protected area embrace the loss of access to common property, food insecurity, social disarticulation, and landlessness (Ezebilo & Mattsson, 2009; Trepp, 2010).

The same situation that a protected area can provide both positive and negative impacts to the local community livelihood also can be found in Cambodia and China. Regarding Cambodia, it has now become increasingly recognized that protected areas need to be understood and managed as essential development assets in socio-economic plans of surrounding communes and provinces and at national levels (ICEM, 2003). For example, in Ream National Park, almost all of residents living around the boundaries depend on the park resources for their basic subsistence and income, to a net value of some \$1.2 million a year or on an average of \$220 for every family living in and around the national park. This park provides land resources and services which together contribute fisheries and agricultural sector income of more than \$0.5 million per year each and forest resource values worth \$177,000. However, recently the draft zoning and management plan has been prepared for Ream National Park and this requires some reduction in access to resource utilizations by local communities (IUCN, 2003). Within China, according to the current regulation, all kind of resource development activities within nature reserves are prohibited (Xue, 2000). Although some multiple-uses are permitted in fragile areas, the protected areas in China are mainly supposed to be zones with little or no human activity (Xu & Melick, 2007). To date, there has not been a concerted attempt to evaluate the community perceptions on socio-economic benefits deriving from protected areas in both China and Cambodia. There has only been research which focuses on poverty alleviation through protected areas management. Here this study attempts to fill this gap by using Kirirom National Park in Cambodia and Chang Qing Nature Reserve in China as case studies with an aim to contribute to proper and effective

management of natural resources in protected areas in both countries and giving assistance to local communities to improve their daily livelihoods.

MATERIALS AND METHODS

The research under the topic ‘Community Perception on Socio-economic Benefits from Protected Areas: A Comparative Study between Cambodia and China’ will conduct by quantitative analysis. The data collection will conduct by means of standardized face-to-face interviews that will include household surveys and protected area managers. Two villages(Pich Ontoung and Chrok Sroem) around the Kirirom National Park (Fig. 1) and two villages (Cao bachun and Cai hechun) around Chang Qing Nature Reserves (Fig. 2) will randomly select for the survey. Those villages all have the potential for tourism attraction. Every household will visit for interview in each of the villages. If a house is not occupied, then it will omit and the next house will be the target. The interviewees diversify between the eldest male and the eldest female in

each selected household. All respondents must be 18 years old or above. In Cambodia and China, a total of 126 respondents will be interviewed in the study areas. The duration of the research is from May, 2012 to April, 2013. The survey will begin by seeking consent from heads of the villages. This is a way of legitimizing the survey in the communities. After describing the study, respondents will be asked a series of demographic questions (occupation, household size, and total annual income). Next, questions relate to the extraction of timber and NTFPs in or around the protected areas will be asked. Then, respondents will have to answer questions related to the income and benefits that they gain from eco-tourism in the study area. Most importantly, the questions which are significant to identify their perceptions (negatives or positives towards the management of protected areas) about protected areas will be used. Lastly, the opinions and recommendations from community living at the vicinity of the protected areas will be required to end the interviews.

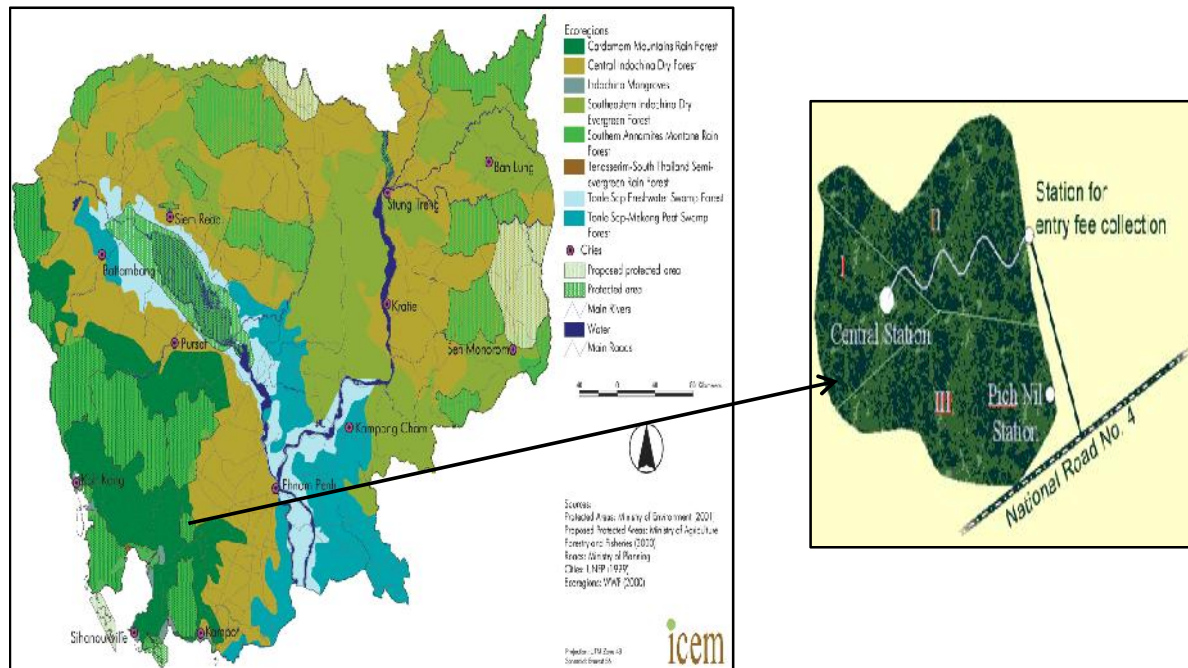


FIGURE 1 – Location of the Kirirom National Park

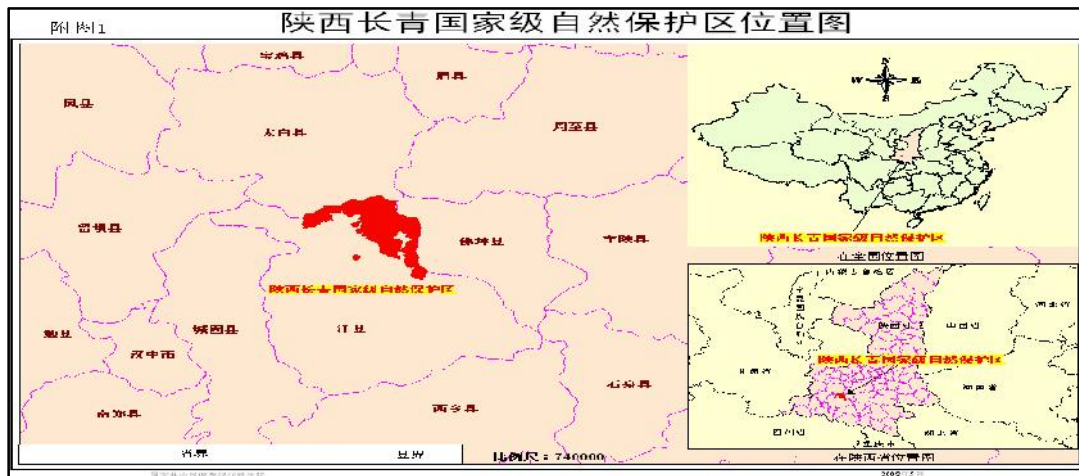


FIGURE 2 –Location of Chang Qing Nature Reserve

RESULTS

In Cambodia, in the study areas located close to protected area, local people can suggest for timber to the head of the community for building materials. The head of community will examine the possibility of providing timber in three criteria: species of tree, age of tree and villagers' demand. According to the survey, only 24.2% of local villagers suggested for timber and another 75.8% never suggest for it. Apart from timber for building materials, fire wood is also very significant for daily livelihood. In the two villages, by collecting fire wood inside the boundaries of protected areas, local people can save money around \$90 yearly on the average. Regarding NTFPs collection, the study revealed that 54.5% of local villagers usually collect NTFPs for food (85%), commercial purpose (10%), and building materials (5%). NTFPs in the study areas include Bamboo poles, wild vegetable, wild fruits, fungi, honey and others. Among these, wild vegetable and wild fruits equally represent the highest percentage (37.5%) for supporting local villagers' livelihood. In term of eco-tourism benefits, the household survey on the two villages with 66 samples indicated that the income from eco-tourism in the community is not fairly distributed. Most of households connected to the main road tend to have more opportunity to benefits from eco-tourism than households living off the main road. The sources of income from eco-tourism comprise of lodging (46.6%), selling beverage (18.8%), chef staff (24.5%), ranger (3.3%) and others (6.8%). The data showed that only 21.2% of the household are the beneficiary from eco-tourism and the remaining still has to depend on other sources of income such as farming and labor-selling for the cassava company in the villages. Since the study focuses on socio-economic benefits from protected areas, three main important sources of benefits can be derived from timber, NTFPs and eco-tourism. These three variables are fundamental criteria using to measure the benefits local people getting from protected area. By using SPSS software for analysis, the information related to proportion of benefits can be delineated as following: 82.5% of local people income is from eco-tourism, 15.9% is from timber extraction, and 1.6% is from harvesting NTFPs.

Within regard to the protected areas structure management, Cambodia and China have a lot of distinct points. Looking into the usage of terminology, Cambodia uses the term 'Protected Area' whereas China uses 'Nature Reserve' to refer to the same meaning. For responsible agencies, Cambodia has Ministry of Environment which is fully in charge of all protected areas in the country and China has eight main responsible administrations in which Forestry Administration has the largest authority (Mackinnon & Xie, 2008). Regarding zoning, China has three functioning zones: Core Zone, Buffer Zone, and Experimental Zone. In contrast, Cambodia has four functioning zones: Core Zone, Conservation Zone, Sustainable Use Zone, and Community Zone. Concerning protected areas categories, China's protected area divides into three categories: natural ecosystem, wildlife and natural monument (Zheng & Wang, 2009). On the other hand, Cambodia's protected area categorizes into four types: national park, wildlife sanctuaries, protected landscape, and multiple use management areas (ICEM,

2003a). Another interesting point is related to compensatory damage. In China the government offers compensation when the establishment of protected areas affects the livelihood of a family. However, there is no this kind of tools offering to local communities in Cambodia. In case of China, the study of the two villages adjacent to Chang Qing nature reserve showed that 93.3% of local people are using firewood as the main source of energy supply. After that, biogas ranked in number two with 5% of utilization and other sources of energy representing 1.7%. Even the villages situated near nature reserve; fire wood is not collected from within, but rather from other forest lands.

In China, Eco-tourism has contributed largely to the economic development in the country as a whole, but it has less to the local community for some reasons. Since most of the eco-tourism development projects are enormous such as hotel and road constructions, local people are not capable of investing in this. Another reason is lacking of skillful staffs. Most of the management and construction of infrastructure's labor are imported from outside. This can be verified by Li & Han (2001), stated that local involvement in eco-tourism is restricted and economic benefits from tourism is limited. Of all the reserves developing tourism, the survey in 1997 indicated that only 10.7% provided benefit more than half to local people and about 22.7% never bring economic benefits to the local communities. In a research conducted by He et al. (2008) in Wolong Nature Reserve showed that the majority of investment in hotels, restaurants, and souvenirs shops was from the reserve government, reserve staff and outsiders. Moreover, roughly 80% of jobs in the infrastructural construction went to outsiders. In the same situation to the above-mentioned case studies, Chang Qing Nature Reserve experiences the same problem. The economic benefits from eco-tourism are quite small to local communities. Responding to the questions whether they can earn more income from eco-tourism after establishing nature reserve, only 10% of them said Yes and the rest 90% replied No. In Chang Qing nature reserve, compensation tool has been used to provide local people with another source of income too. However, the receivers of compensation are just a few of families in the communities. Based on the survey, only 8.3% of local people obtain compensation and another 91.7% is non-receiver. Hence, the adoption of compensation mechanism is still limited in the nature reserve.

DISCUSSION

The analysis of community perception towards socio-economic benefits from protected areas is based on the advantages community receiving from protected areas. Those include accessing to firewood and timber, water resource, NTFPs, eco-tourism, and compensatory allowance. These variables can be use to evaluate or predict the perception of local community whether they satisfy or dissatisfy with the benefits from protected areas in both Cambodia and China. Moreover, it can also reflect the management effectiveness of protected areas in both countries. Regarding Cambodia, the benefits in which local people can obtain from protected area comprise the collection of firewood which can save them money about

\$90 annually. Another benefit is accessing to water resource without limitation by spending only \$0.5 per month. On top of this, NTFPs also provides a fairly big benefit to local people livelihood since 54.5% of them often rely on wild vegetable (37.5%) and wild fruits (37.5%) for food. Even though the mentioned benefits are quite large, there are also some benefits which are not fairly distributed within the community. Timber for house building is an example. Only a small number of local people about 24.2% can acquire this. Another benefit which is not fairly distributed is within the eco-tourism project. Based on the survey in two villages, only 21.2% of local people can benefit from eco-tourism from different ways such as lodging, selling beverage, chef and staff inside the project. All of the above reasons are sufficient to predict that the level of satisfaction towards socio-economic benefits from protected area in Cambodia is not quite high. Situation in China regarding the level of satisfaction towards socio-economic benefits from protected area is different from that in Cambodia. To analyze the level of satisfaction in China, three variables are imported such as firewood collection, eco-tourism and compensatory mechanism. According to the data from the two villages in Chang Qing nature reserve, more than 90% of household use firewood as the main source of energy, but not even 1% of firewood is collected from within nature reserve. Eco-tourism benefit for local people is very low too because only 10% of families stated their income increase after establishing nature reserve. Generally, income from eco-tourism mainly goes to the outsiders but not the insiders in China. In terms of compensation, merely 8.3% of local people receive and another 91.7% is non-receivers. Based on these figures, the level of satisfaction in China is low. Tab. 1 summarizes the comparison of community perceptions towards socio-economic benefits within the two countries.

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