

SOCIAL SCREENING AND CONSERVATION NEEDS ASSESSMENT OF BA BE NATIONAL PARK

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Abstract

This study analyzes the pressures of community livelihoods around Ba Be National Park for conservation. The study also assesses the conservation needs of the community - a new approach to conservation. Although there are many support from the government and international organizations for the community, people's life is still very difficult, the poverty rate is high. Without measures to support livelihoods and benefit sharing from conservation, biodiversity in this area continues to decline.

Keywords: Ba Be National Park (Ba Be NP), Conservation needs assessment (CNA).

1. Introduction

Ba Be National Park is in the Western of Bac Kan province, about 70 km from the centre of Bac Kan province and 250 km from Hanoi. Ba Be Lake is a precious natural heritage with ancient Karst geological structures, a complex system of rivers and streams, limestone mountains and water bodies. In this national park, there is tropical evergreen forest located on the limestone mountains, representing the typical ecosystem in the Northeast of Vietnam.

In 1990, in a survey for building technical proposal of Ba Be national park, they found 354 species of flora and 265 species of fauna. Now, 1281 species of flora and 553 species of fauna have been found. Together with Ba Be Lake, many other sightseeing places and with a cool climate in every season, Ba Be national park has natural potential for developing eco and adventure tourism.

There are 613 households with 3,559 people living inside the national park. The core area of the national park is 10, 048 ha, the buffer zone is 28,200 ha, including 5 communes with 15,420 people. Ba Be Lake is the center with 500ha. Every year, there are about 20,000 domestic and foreign tourists.

The local community lives both inside and outside of the national park. Their lives depend on natural resources mostly. The major products are fire wood and non timber forest products. There are also some people who hunt wild animals and log timber illegally for additional income. Tourism also provides jobs for many local people such as boat driving, guesthouse and guide service.

Although the National park's authority has been preserving biodiversity and natural landscape values, they are reduced by human and calamity. Preserving and promoting

these values requires a fund and a comprehensive and scientific managing plan between many relevant organizations, from the Central to local authorities and to the local people, especially the support from projects. Lack of these has caused the limited capacity of the National park authority.

This study aimed to assess the impacts of livelihood activities on conservation in Ba Be National Park. Reinforce the relationships between MB of Ba Be NP with local communities in views of management, conservation and sustainable natural resources use in NP. Identify potential impacts from proposed activities of Vietnam Conservation Fund to local communities and determine mitigation measures

2. Method

The methods applied to social screening as well as conservation needs assessment are as follows:

1. Hold workshops referring to conservation needs assessment in communes living inside and near by Ba Be NP to consult and discuss about identified threats as well as threats occurring in implementing CNA.

2. Conservation needs assessment and establishment of models with participations of local people, organizations, agents, women unions of communes and villages at sites to discuss about the threats to ensure the unanimousness.

3. Results

3.1 Economic activities

Agriculture:

The major cultivations are wet rice plantation, slash and burn agriculture, the medium income each year (calculated for all ethnic minorities groups) of local people is about 394 kgs of rice/person, the period of food shortage of poor households is from 2 to 4 months in a year. Cash needed for other expenditures of each households such as, furniture, clothes, school fees... earned from sale of agriculture products and products exploited from forest. When people can not depend on forest, all the money will be made from agriculture production (rice, farm products and by-products) and other incomes brought by the State (if any). The whole area of core zone only has 448 ha agriculture land, average area is 0.73ha/household and 0.12 ha/person. Besides, areas of agriculture are mainly one-crop fields, lands for planting farm products in deposited banks of rivers, streams and estuaries falling into the lake. Most of the area just can be cultivated for 1one crop as well as many places always deposited with sand so the productivity will be very low. Although the livelihood of local people entirely depends on agriculture in the context of land shortage and land quality as well as irrigation system indicates its weakness that cause a lot of difficulties to local people. To solve this problem, it is impossible to extend the area of agriculture land. It should be a plan to move the local

people to another area, settle the residential areas together with ways of creating jobs, generating income for households.

Husbandry in the area is still not developed. Major animals are: Cow, buffalo, goat, pig and chicken. Traditional grazing, local breeds with low productivity and veterinary support is not taken into consideration seriously. Because people do not invest in husbandry so the cattles grow slowly and mostly serve for the needs of households. The grazing area is getting smaller , it is suggested that traditional husbandry should be changed due to the lack of food in dry season, lack of knowledge of modern techniques in husbandry, lack of markets, grazing is not suitable for current condition, cages are not well enough to feed animals, poor households are in short of capitals for investment in breedings, techniques, foods and do not know how to process the food for animals, fine foods, poor veterinary network, constant epidemic diseases, lack of inoculation's awareness.

This area comprises a system of rivers, streams which create a lot of opportunities for exploitation, aquaculture but the methods applied to this area are not suitable. Uncontrolled and unplanned fishing leads to the depletion of water resources, extinction of some rare, precious species and environmental pollution. Fish is the source of food and money for households in the village which is being used up due to the unsustainable exploitation. Although the NP and relative shareholders have made a lot of efforts, fishing by mine and electricity is still carried out. Therefore, local people hope that the authorities and organizations will pay attention to this issue to stop offenders from exploiting as soon as possible. This action would offer sustainable income to local people and protect ecological environment. Furthermore, local people also want to sign contracts of lake protection to prevent outsiders from fishing illegally. (other communes/villages)

In this area, agriculture accounts for the largest proportion of household's income. Land is not enough for agriculture and loss of crops due to flood in low lands which are adjacent to rivers and streams leading to the burden of encroachment in NP. Local people often encroach on cultivated land which is near the living area and accessible agriculture land. In mountainous areas, the land is insufficient for wet rice cultivation so local people often take lands from special use forests for swidden.

Forestry:

People are living inside strictly protected areas and outside NP have been causing stress for conservation in NP. To dealing with this matter, there are common governments' policies, NP has introduces a lot of solutions, economic-social development programmes such as, forest protection contracts for local communities in Nam Mau, Khang Ninh, Cao Tri, Quang Khe and Nam Cuong Commune. Every year, NP signs forest protection contracts of more than 5000 hectares with over 400 households in protection, restoration-oriented protection, afforestation in ecological restoration zones. Thanks to these activities, households would have more incomes and their awareness of natural resources and environment would be raised, the stress for the core zone of NP could be reduced.

Table 1: Land use of communes in nature reserve and buffer zones.

Unit: ha

Commune Kinds of land	Nam Mẫu	Khang Ninh	Cao Trĩ	Cao Thượng	Quảng Khê	Hoàng Trĩ	Đông Phúc	Nam Cường	Xuân Lạc
Total natural area	6.478,94	4.434,41	2.424,98	3.906,65	5.491,42	3.526,90	5.898,97	3.235,00	8.421,00
Agriculture land	176,22	855,26	250,15	155,14	330,49	241,45	517,66	315,85	508,64
Forestry land	5.657,71	2.754,94	985,22	807,46	4.566,82	2.451,26	5.105,80	1.368,88	4.498,42
Specialised land	474,45	24,44	30,61	30,28	41,54	47,14	83,31	32,08	350,52
Residential land	8,45	28,14	12,38	25,77	22,88	15,12	20,34	20,26	6,14
Bush and bare land	25,66	728,08	1.094,76	2.841,05	470,93	725,76	87,85	1.497,93	2.988,03

Source: Ba Be NP

In NP, there is no activity of forestry production. Therefore, exploitation is mainly harvesting forest products unplannedly. In the past, major forest products exploited from forest are timbers, animals for food and house-building, sometimes these products can be considered as goods. Since Ba Be NP was established, forest rangers have co-operated with local communities to take part in forest protection groups so logging and hunting of wild animals are supposed not to occur. Recently, local people mainly harvest NTFPs for their daily life.

Products exploited from forest:

Harvest firewood: Households living in core zone use about 100-150 kgs of dry firewood per month because they are poor and do not have enough money for using other resources such as gas and coal. Local people go to forests to take branches and bodies of dry wood, sometimes they even cut and take green trees. Firewood used for cooking mash accounts for over 60% harvested firewood. Therefore, it is necessary to find ways to save firewood, train on advanced techniques of pig husbandry without mash,..Thanks to the appearance of electricity, a great amount of firewood has been saved due to the usage of electrical equipments for cooking and lighting. ..

Exploitation of timber: This seems not to appear anymore. Even some local people illegally exploit timber for using at home and sale. The major kinds of trees that are often exploited are *Burretiodendron hsienmu*, *Toona sinensis*, *Dracontomelon duperreanum*, *Zenia insignis* Chun..This is an illegal and unsustainable exploitation which cause effect on forest resources conservation. Exploitation occurs in most of villages, however, this would reduce because of strict management of forest rangers and propaganda.

Exploitation of bamboo shoot: Bamboo shoot, mushrooms, wood-ears harvested by local people to use and sake, not only people living inside the NR but also outsiders harvest it.

Medical herbs: People living in the area and neighbouring zones often collect many kinds of medical herbs for curing diseases and sale. One significant factor which affect to medical herbs is the demand for collection of precious trees such as *Anoecilus roxburghii* hayata, *Fibraurea recisa* Pierre...of wholesalers collecting goods to sell in other places or China.

Hunting animals in forest: All faunas, for instance, animals, snakes, geckos, birds.. are objects for hunting. Local people hunt by many ways: Hand-made gun, trap. Although hunting gun has been confiscated and banned not to use but a few ethnic minorities (Dao, H'mong) illegally go to forest for hunting animals.

Tourism and commercial services:

Thanks to the supports from some projects conducted in NP, MB has co-operated with local authorities to set up models of community-based ecotourism that work effectively. Typically, services of homestay in Tay's stilt-houses, co-operatives of transportations by boat in villages which are adjacent to the lake, especially in Pac Ngoi village, Nam Mau Commune. As a result of this, living standard of local people has been improved and their awareness of environment and ecology has been raised substantially. The models should be reinforced and duplicated. However, households who participate in these models mainly the ones who live near the lake and the usage of motor boat with diesel engine has the potentiality of pollution because of lubricant as well as the noise can make wild animals feel embarrassed.

3.2 Activities affect to NP.

The life of ethnic minorities in NP mostly depends on natural resources that are available in forests, some of them live on slash and burn agricultura. Natural resources of NP provide local people with foods, materials, medical herbs.. Although, the NP was established, illegal slashing and burning agriculture, exploitation of forest products, hunting and trapping wild animals, fishing, harvesting NTFPs have not yet resolved. Activities which cause effects on forest products and landscapes of NP are as follows:

- Hunting for wild animals, fishing by electricity and mine causing the decrease of some kinds of species, some other species are in danger of extinction and the life of animals living in the forest seems to be chaotic.

- Building houses of residential people has encroached and extended the area of NP which creates the separation of landscapes and biodiversity reduction.

- Illegal exploiting of timber, firewood affects defectively forest products breaking forest layers, destroying forests and some of floras are in danger of extinction. Due to these activities, habitats of animals are lost and the balance of biology is damaged.

- Grazing cattles in the NP affecting the growth and development of forest trees and disturbs the life of wife animals.

- Plant trees for food is the encroachment of short-term afforestation and habit of using fire are direct threats to the forest resources and biodiversity that cause the detachment of landscapes, erosion of land.

- Exploitation of NTFPs such as, medical herbs, bamboo shoots, honey, ornamental trees, calamus bousigonii... leads to the scarcity or danger of extinction of some species.

The indirect reasons of these actions are the increasing number of population, essential demands of local people and markets, poverty, manners and customs and limited awareness of communities on nature conservation.

To protect forest resources effectively, it is necessary to have laws together with socio-economic development programmes in buffer zones to improve living standards as well as the awareness of local communities on forest protection and development, biodiversity conservation.

3.3 Some notices of the relationship between communities and biodiversity.

At present, there are many people living in Ba Be National Park, mostly ethnic minorities with low intellectual standard and their life depends on natural resources. The ethnic minorities still reserve their own cultural characters which creates the diversity in the region attracting more and more visitors.

Up to now, Ba Be MB, local authorizations and local communities has made a lot of efforts to increase biodiversity, protect and restore the forest system on limestone mountains with the areas of rare, valuable species of faunas and floras. In addition to this, the investment in building the Nature reserve also help to create jobs, improve the living standard of local people through economic development programmes in buffer zones, forest protection, restoration and afforestation programmes, tourism services as well as the sustainable and reasonable usage of natural resources.

Thanks to the process of development and submission of scientific records of the world heritage to UNESCO Committee, Ba Be NP's values has been recognized by foreign authorizations and agencies that attracts more tourists to come.

Communities in villages adjacent to Ba Be NP often have large populations with limited awareness on environment, poor application of advanced techniques to production and high demand for natural resources of forest and lake (lack of information, poor awareness on forest protection and environment). These reasons has created many threats and challenges to the conservation in NP. The most visible activities namely exploitation of firewood, NTFPs, hunting for animals, using mine and electricity for fishing. Water of the lake is polluted by the garbages of visitors, wastes from motor boats (petroleum, lubricant), trashes of local communities and other exotic substances in fishing. In addition to this is the depositing process of the lake due to the erosion caused by agriculture production in the estuary of the main river flowing into the lake.

3.4 Potentiality of impacts from local communities to the changes in management activities.

Proposed activities of Ba Be NP including working with at least 04 prioritized villages in the NP:

- Raising awareness, knowledge of communities about NP, the meaning of conservation and the role of NP in potentiality of maintaining and improving the living standard of local communities.

- Attracting local communities to participate in forest protection and management, biodiversity monitoring through co-management, regular exchanging information and feedback between MB and local communities.

- Reinforcing the ability of self-management of activities exploiting and using water surface for community groups, determine the boundary of legal land for use, consultations with communities on the demand and ways of using natural resources as the next step of developing BSM getting approach to the sustainable natural resources use which Vietnam Conservation Fund phase I has conducted activities as agreed on using natural resources of water surface.

There is no result on the implementation that cause the restriction on using traditional natural resources in prioritized villages, therefore, there would be no mitigation or compensation measures for activities in the plan. They would be developed as parts of proposal submitting to Vietnam Conservation Fund in the future.

Patrolling and other improvements in law enforcement will be guided directly to infringers and people who are exploiting natural resources for commercial purpose. There would be no mitigation and compensation measure for these people.

Table 2: Summarize on the potential social impacts of the investment

Activities	Potential impact of the investment	Level of impact	Measures to mitigate the impacts
Strengthening the capacity of MB for biodiversity monitoring and law enforcement.	Improved capacity for biodiversity management together with law enforcement on forest and biodiversity management and development will create restrictions on illegal exploitations for livelihoods of communities.	Limit on the lowest level of negative impact caused by community to the NR.	Dissemination, propaganda, monitoring the law enforcement of law materials, attracting local communities in managing, using NT and biodiversity monitoring; encouraging communities to use NR sustainably.
Raising awareness on biodiversity conservation for local communities.	Communities have knowledge about regulations on biodiversity conservation, forest protection to implement.	High	Contents of propaganda suit with the knowledge and conventions, customs of local communities, propagandizing regularly, forms of propaganda are suitable for ages and genders.
Biodiversity monitoring	The result will not tell the truth if the conductors are not trained to gather information during patrolling and monitoring.	Average	Integrating this activity into forest patrol and protection.
Developing BSM	Impacts on the livelihoods of some households depending on the forest resources.	Average	Propagandizing, reinforcing the capacity of self-control for communities as well as their participation in co-management; suggesting for sustainable use of NR.

Source: Author

4. Conclusion and recommendations

4.1. Conclusion

Ba Be NP has a diversified ecosystem, forests on limestone that is typical for the North-Eastern of Viet Nam and the world, inland wet area is of international importance with diversified systems of faunas and floras including a lot of endemic rare, valuable species as well as some endangered species. The values of landscapes, biodiversity, cultural characters of NP are precious assets that should be preserved and developed.

There are a lot of people living in core zones and buffer zones of Ba Be NP and their life mostly depends on the natural resources of NP. Therefore, it is said if we want to conserve Ba Be NP, we should make more investments in developing economy for communities, particularly paying attention to the benefits of people living in SUF as well as attracting them to the management of NP. Only when the people get benefits from SUF and settle their life could the threats of hunting, illegal exploitation reduce..

It is necessary to have prioritized solutions to protect important species through conducting surveys, developing plans and monitoring. Besides, it is said that propaganda and education should be promoted, training on strengthening the capacity of local communities and professional staffs.

4.2. Recommendations

Due to the limit time, the collection of information concentrates on the consultations with different organizations, agencies, communes' people's committees and local communities on matters addressed in CNA; major threats, matters relating to local communities and potential solutions.

In views of values of biodiversity, culture, difficulties and challenges as stipulated in the report, MB is really in need of the support from organizations, projects to help Ba Be NP fulfill their duty in forest management and protection.

It is suggested that all local authorizations, Bac Kan Provincial People's Committee, particularly Viet Nam Conservation Fund support Ba Be National Park in conserving biodiversity, co-operating with communities, developing economy and using natural resources. Combination of funds as planned in the programme using for the conservation of NP, especially paying attention to the communities relating to major threats to help them have a stable life as well as avoid illegal activities through patrolling with the participation of communities and sustainable use of natural resources. Ba Be NP hopes to get support from Vietnam Conservation Fund to implement activities of raising management capacity of MB in biodiversity and human impact monitoring, law enforcement, propaganda, training on raising awareness on forest and environment protection, reinforcing the participation of communities in protection, development and sustainable use of natural resources, biodiversity monitoring.

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