

The Utilization of Buddhist Economic Philosophy in Cultural Forest Management for Community Social and Economic Development in the Province of Trat

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Abstract: The application of Buddhist economic philosophy in the management of cultural forests in developing the economy of local community's should adhere to Buddhist Dharma philosophy of: óodt tãan sãm-bpá-tãa; to be endowed with energy and industry and achievement of diligence, gan-yaa na mit-dtaa; to be in good company; association with good people, sôm chee-wi-dtaa; balanced livelihood; living economically. Where rules and regulations are created by the community in the utilization of forest resources by considering necessity, appropriateness and sustainability and aa-rák-kãa sãm-bpá-tãa; to be endowed with watchfulness; achievement of protection. The management of cultural forest in the Province of Trat by utilizing Buddhist economic philosophy have increased the forests in quality, quantity, variety and density of trees and vegetation. Humans, wildlife and vegetation have all benefited from the richness of natural resources and dependency upon each other. Guidelines in managing cultural forests by application of Buddhist economic philosophy towards the development of communities in the Province of Trat is based on strategies that utilize Buddhist faith in nurturing the hearts and minds of community members. Local communities participate and have active roles in all management procedures and activities. Management procedures have activities, which encompass manufacturing, transformation and marketing which have all benefited local community economies and can be applied as a guideline so that these economic benefits are sustained for future generations.

Key words: Cultural forests, afforestation, Buddhism, philosophy, conservation, rehabilitation

INTRODUCTION

Natural resources are critical to the preservation of the life of both plants and animals. Humans rely on resources and depend on the soil, forestry, wildlife, water, minerals, energy and climate are critical to human existence. Nature also provides the four main factors that sustain human life, which are food, clothing, housing and medicine. The forest is the source of waters streams and springs. Forests also support wildlife habitat and biodiversity. Trees help to provide moisture and shade, while reducing carbon dioxide, maintaining the balance of the natural ecosystems. Forests and natural resources also sustain the country's prosperity. Balancing economic development and fertile environment is a task that all countries must be aware of and understand the importance of natural resources. The equilibrium between humans and nature will greatly provide prosperity to the livelihood of citizens and to the

country's economy if used intelligently and wisely, the nation will be secure. In contrast, if countries do not have any resources, or do not know how to conserve, the people will be poor, the country faced with economic recession, the nation will lack stability.

Reduction of natural resources in the past were mostly caused by natural phenomenon that occurs occasionally. But current events in various roles of humans began to change the trend. The reduction in resources has occurred continuously over time. The major causes are economic development and population increases. Natural resources are sought, consumed quickly, deteriorated or died faster which is a major problem because the utilization of resources outpaces the capacity or amount of natural resources which are limited. About 80% of global forest were deteriorated and destroyed. There are very few patches of fertile forests left in the world. These small patches of fertile forests remain in regions such as the Amazon river basin in

South America, Southeast Asia, Canada, Central African and Russia. But these fertile forests are in danger of being destroyed and exploited by humans.

Since 1960, the agriculture of Thailand has shifted from subsistence farming to a cash crop culture to develop the social economy. This shift has resulted in the conversions of forests to cultivated lands. As a result, rapid deforestation has occurred and soil erosion in crop fields has become a serious problem with regards to resource degradation (Sawada and Araki, 2007). Over the past 40 years, Thailand has lost an estimated 67 million Rai (1 Rai = 1,600 m²) of forest coverage. Forests in Thailand are being destroyed at an alarming rate of 1.6 million Rai annually. In 1961, the total forest coverage in Thailand was 171 million Rai or about 40% the area of Thailand. But in 2003, there only remained 104.6 million Rai left, which means that Thailand only has 32.69% of forests left. Human destruction is to blame for Thailand's deforestation from factors, which include creating residential areas, farming, slash and burn agriculture and timber.

MATERIALS AND METHODS

This research is a qualitative research aimed to study the historical background, knowledge of managing cultural forests and guidelines of managing cultural forests by means of applying Buddhist economic philosophy towards the economic development of communities in the Province of Trat. Research areas were selected by purposive sampling, which include 6 villages in the Province of Trat in Eastern Thailand:

- The village of Ban Pred Nai, Moo 2, sub-district of Huang Nam Kao, district of Muang
- The village of Ban Klang, Moo 6, sub-district Laem Ngob, district of Laem Ngob
- The village of Ban Suan Maprao, Moo 7, sub-district Klong Yai, district of Klong Yai
- The village of Ban Tang Kwai, Moo 4, sub-district Saen Tuhng, district of Kao Saming
- The village of Ban Klong Pit, Moo 10, sub-district Huay Raeng, district of Muang
- The village of Ban Ruen Rom Samakkee, Moo 9, sub-district Sator, district of Kao Saming

Four of the selected villages applied Buddhist economic philosophy in managing forests. One village managed forests by the operation of the local community committee. The last village's forests were managed by government organization. All the forests managed can be classified as 3 mangrove and 3 terrestrial forests. A total

of 200 individuals from government sectors, private sector, general public and experts in the field of conservation and rehabilitating cultural forests were included in the sampling group. The research was conducted from August 2007 to December 2008.

RESULTS AND DISCUSSION

History of managing cultural forests in the Province of Trat

Characteristics of the cultural forest: From the 6 villages in Province of Trat, 3 villages manage mangrove forests and 3 villages manage terrestrial forests. A total of 8 forests are managed in total by the 6 communities. Three of the mangrove forests are located in the national forest zones. Only one of the terrestrial forests in managed by the communities are located in the national forest zone.

Two mangrove forest have been in continuous development for >10 years. One of the mangrove forest's development was discontinued in the past and afforestation was only re-initiated in 2001. Currently all 3 mangrove forests have been developed to include walkways to promote conservation and education. All 3 mangrove forests are currently fertile and densely populated. There are many varieties of trees and herbs planted. New afforested areas are planted with mangrove trees and support large numbers of wildlife such as crabs, insects and aquatic animals.

Two terrestrial forests are located in zones that the general public can utilize, while one terrestrial forest is located in national forest zone. Out of the 3 terrestrial forests, 2 have been in development for over 10 years, while one forest was only afforested a little over 2 years ago. There are many varieties of trees in the terrestrial afforested over 10 years ago with original indigenous varieties and new species. The terrestrial forest that was just recently afforested was done by utilizing public land that was not in use and planted with a mix varieties of trees, herbs and vegetation.

Concept of afforesting cultural forests: Allowing private sectors and groups to develop forest conservations is an effective way. But governments must have good management, effectiveness and justice (Gulbrandsen, 2005). Afforesting mangrove forests was taken to conserve and rehabilitate 2 mangrove forests that were destroyed by the incursion of local entrepreneur and politicians who deforested the forest to make shrimp farms. The franchise was awarded to capitalists without regulations to the replanting of trees. One of the mangrove forest was afforested because of natural destruction of the coastal shores caused by wind and sea

waves. Other problems include the use of chemical fertilizers, polluted water, illegal use of boat trawlers and machinery that has scoured the coastal land, forests and destroyed the delicate coastal ecosystem. Human destruction has caused a decrease fish habitat, small sea crabs to drop significantly. Income of the villagers from catching crabs has decreased. Afforestation and conservation methods were initiated to restore the natural ecosystem back to balance. Maintain the forests as sources of food and provide a profession to local children. As well as to prevent erosion from waves scouring the coast and prevent anyone from destroying the forests like in the past.

Afforesting terrestrial forests in the beginning followed the government's afforestation development project from the department of forestry since, 1994. The government project provided afforestation guidelines for the development of 2 terrestrial forests. While, one forest was afforested by the community to repair the damage caused by the intrusion of the capitalist. The newly afforested area was created with reservoirs and ponds which provided plenty of shade and healthy ecosystems. The forest was utilized so that the general public can benefit from forest by products and beauty of nature.

Utilizing beliefs and traditions: The belief in Buddhism was applied to the management of cultural forests by the lead of Abbot Phra Subin Paneetoh. Management process were performed by a central committee which were members of the Sacca on Virtuous Development Association of Province of Trat (SVDAT). The committee applied Buddhism philosophy in economics to mobilize funds and loaning out the savings to community members to borrow to use in their professions. The SVDAT is also involved in other activities such as the purchase and sale of gas, rice, fish sauce, shrimp paste, detergent and fertilizers, which the group allows community members to purchase once a month. The sale to members is at cheaper prices than the marketplace. Dividends will be paid to the members at the end of the year. As the group prospered, other benefits were provided to the community in the form of funds to help childbirth, hospital fees, funeral expenses, scholarships and loans for education etc. The SVDAT performed their duties in parallel with learning. Members of the group learned from each other, work together, proposed ideas together and helped each other in solving problems. Eventually, the proceeds from the unity of the group were enough to fund the management of their community's cultural forests.

The management of cultural forests by applying Buddhism philosophy in economics has resulted in a forest that is fertile and densely populated with various

species of trees. The public has benefit from utilizing empty space in the villages. Afforestation of mangrove coverage has increased. Coastal areas are able to resist the erosion of waves and wind. Management activities that are applied to developing cultural forests are diverse. The maintenance of planted forests, raising aquatic animal species, building artificial reefs, preserving fish, creating routes and paths so that the ecosystem can be studied, promoting tourism and promoting and assisting in the process of forest management. These activities have led to the successful rehabilitation and conservation of trees, herbs, wildlife, aquatic animals and insects to increase. Many birds have returned to the forest area. Ecosystems have shown that natural food chain is increasing. Insects that were once lost or driven away returned such as fireflies and bees. The local community benefited from the return of the nature by an increase of sources of natural food, shelter and medicines. They were also given the chance to study and learn from a healthy ecosystem and tourism. The timber from the forest was also provided to help community members who lost their homes from natural disasters. Logging and utilizing the forest for timber is considered case by case. Some communities allow the cutting of trees from forests that have been afforested for at least 10 years. Some communities will sell the timber and forest by products and use the funds for buying seedlings and re-planting. Some communities charge a fee for those seeking forest goods, which help contribute to afforesting efforts. Several groups have given their forestry funds to the SVDAT to lend out to the community. The effort of the SVDAT group has been very successful in sustained conservation, rehabilitation and development of cultural forest to the point that the group received numerous awards; such as awards for Green Earth and first prize in afforestation efforts in 2001.

Cultural forest development plan: All villages are equipped with plans to continue afforestation. Some villages have signs in areas that are being afforested to prevent unauthorized access and woodcutting. Other signs are directed at promoting education in herbal, vegetation, wildlife, aquatic animals and insects. Many cultural forests are utilized as environmental classrooms and to teach the local indigenous knowledge. Several areas have utilized forest areas into parks, gardens and for tourism. Some parts of the woods are cut and sold for funds to replant the clear areas for trees, flowers, herbs and other vegetation such as economical trees, auspicious trees, wild trees, decorative trees, herbs and useful vegetation. The cleared areas are also utilized with rest areas, paths, pavilions, reservoirs, ponds, pools for rearing aquatic animals and wildlife reserves.

Woodcutting is performed in a circular pattern, where the cleared areas are replaced with new seedlings. The timber is then processed into furniture such as window frames, chairs and benches. Forest by-products are also utilized as foods such as spiced crabs and herbal rice cakes. Excess forest products made from leaves and branches are used in making key chains necklaces and other miscellaneous souvenirs. Villages have promoted tourism by arranging entertainment activities such as home stays, rallies, festivals, fishing competition, shrimp competition and ecosystem and nature tours of the cultural forests. Environmental camps in herbal medicines and nature are arranged to educate students and the general public have also created local guide tours and the creation of jobs.

Guidelines of managing cultural forests by applying Buddhist philosophy to develop the economies of local communities in the Province of Trat: In many parts of the world, forests are being cut down faster than they can be replaced. To prevent the destruction of the world's forests, tree planting, paper recycling and other strategies are needed (Chiras, 2005). While, the materialist is mainly interested in goods, the Buddhist is mainly interested in liberation. But Buddhism is the middle way and therefore in no way antagonistic to physical well-being. It is not wealth that stands in the way of liberation, but the attachment to wealth; not the enjoyment of pleasurable things, but the craving for them. The keynote of Buddhist economics, therefore, is simplicity and nonviolence. From an economist's point of view, the marvel of the Buddhist way of life is the utter rationality of its pattern; amazingly small means leading to extraordinarily satisfactory results (Daly and Townsend, 1993).

The application of Buddhist economic philosophy in the management of cultural forests in developing the economy of local community's are:

- Óodt tãan sãm-bpá-tãa; to be endowed with energy and industry and achievement of diligence. This is achieved by unity in the decision to manage the forests to benefit the entire community. The preparation and planning of the forest management implies
- Gan-yaa na mit-dtaa; to be in good company; association with good people. This is necessary in the building of good friendship and team work that is just and sacrificial in management. Government sources should provide support in forms of providing academic knowledge and forest management processes. Community's should cooperate and arrange activities to promote conservation efforts

- Sôm chee-wi-dtaa; balanced livelihood; living economically. Where rules and regulations are created by the community in the utilization of forest resources by considering necessity, appropriateness and sustainability
- Aa-rák-kãa sãm-bpá-tãa; to be endowed with watchfulness; achievement of protection. Is to conserve, partake in the follow up and help each other in the preservation and conservation of forests

CONCLUSION

The cultural forests managed in the Province of Trat are all located in the national forestry preservation and public areas. Mangrove forests were afforested before terrestrial forests. The main reason for afforestation is because of land encroachment by private investors in making aquatic shrimp farms, wrongful concessions by local government officials, encroachment by government agencies and the natural destruction of coastlines, which have decreased natural resources in quantity and richness. Afforesting terrestrial forests in the past was performed by participating in afforesting development programs for communities under policies from the Department of forestry and then gradually developed into afforesting programs to protect against the encroachment of private investors. Currently afforestation's main purposes are to provide income to sustain the welfare of elderly citizens, medical expenses for the needy, community development and funds for the management of the forests.

The types of trees in mangrove afforestation in the past included many types and seedlings, which the village community gathered from the locality of the area. But currently through the support of the department of forestry, only mangrove trees (*Genus rhizophora*) is promoted, because of the tree's strong roots that can sustain coastline erosion brought on by waves and wind. The types of trees grown in terrestrial forests are mostly seedlings that can provide timber and economic value. Funding in the past came from the community and the department of forestry. Currently, both forests are under direct state funding. There are 3 methods for managing cultural forests. The first method is management according to Buddhist economic philosophy undertaken by the Saja Sasom Sahrp group or SVDAT (The Sacca on Virtuous Development Association of province of Trat), community committee management group and Government organizations. Pra Subin Paneeto of the Pailorm Temple, Mueang district, province of Trat province is currently the president advisor of the Saja Sasom Sahrp group, which utilizes Buddhist economic philosophy as management guidelines.

Communities have benefited from forest resources by harvesting vegetables, natural herbs and aquatic animals, cultivation of vegetables in terrestrial forests, utilizing excess timber to repair homes, temples, schools and government offices. Buddhist economic philosophy in management cultural forests restrict the use and utilization of Mangrove forests and forest resources that are managed by the state. While terrestrial forests have rules and regulations of utilization. Mangrove forests are managed with activities to restore and preserve natural coastal resources, promoting tourism, ecological knowledge training programs, creating local tour guides and lecturers, home-stay projects with local foods and culture, allocating appropriate funding for the management of forests with participation with private sectors.

RECOMMENDATIONS

Many policies of Asian governments of transferring forest as property of the state, will only temporarily decrease possession rights and encroachment of the people. In the long term, it will lead to the destruction of forests (Dorji *et al.*, 2006). Management weakness will increase in areas, where the decentralization of forest management lacks policies to meet the needs of poor people's rights. A lot of problems will occur if government agencies block people from utilizing forests (Anne, 2007).

Communities should gather and arrange comprehensive activities, which include production, transformation of forest goods and locate markets for the finished products. Government agencies, local and community organizations, private sectors should support the clause by providing funds, seedlings and materials in the afforesting of mangrove and terrestrial forests. Products manufactured from the woods should be transformed, sold at local community venues, knowledge training course should be provided together with tourism and the products sold in local community markets and

during provincial festivals. Cooperation with involved networks is necessary to enlarge the market and create a network between manufactures and consumers. The proceeds from the activities should be used as funds in forest management, elderly care, funds for the disabled and funds for community development.

SUGGESTIONS

For future research should include studies to calculate and determine the effectiveness index of applying Buddhist philosophy in the conservation, rehabilitation and development of cultural forests. Other studies should focus goals and propose practical applications to promote the rehabilitation of communities in managing their existing cultural forests in the province of Trat and throughout Thailand.

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