ROLE OF CULTURAL DIVERSITY IN PRESERVING AND UTILIZING BIOLOGICAL DIVERSITY IN THE PATTANI WATERSHED

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ABSTRACT

The purposes of this research were to study the status and opinion on the biological diversity and multi-culture, and the relation between biological diversity and multi-culture of five areas includes culture of residences, of consumption, of professional, and of disease remedy, in the Pattani Watershed. Data was collected through qualitative and quantitative approaches. Qualitative data was collected from in-depth and group interview while quantitative data was gathered from the samples of 2,000 people along the line of Pattani watershed. The data then were analyzed in terms of descriptive analysis as well as the analysis through statistical mean using SPSS for windows to seek frequency percentage mean, deviation and multiple regressions. The study found quite high relation between the relation between biological diversity and multi-culture of such aspects with high positive significant \( p < 0.01 \). This was consistent with the finding through the method of interviews. People in the Pattani watershed area believe that only the way of preserving multi-culture which includes various activities, is able to uphold the biological diversity in this area as long as possible.

Key Words : Multi-cultural Diversity, Preserving and Utilizing Biological Diversity, Pattani Watershed

INTRODUCTION

History of human beings almost relies much on the nature of place they settled. Their experience conducts various cultural activities in order to survive. They know how to build house, to find and choose food, to treat disease and sickness, to consume and live daily. These human activities, initially, are provided and prepared by natural resources and forestry. Although the world situation has been changed and host areas become urban areas, people can not keep away from demand and mutual necessity to the environment. This is because environment is whether touchable or untouchable one. Since human beings are necessary to rely on and regard with the diversity of the life, they learn both directly and indirectly as
well as create, by the time, activities, which are consistent with their need, wants.

Pattani watershed is an important watershed area on the perspective of the relation between culture environmental system and biodiversity. It is important in terms of its location separated between Malaysia and Thailand and one of the remained fertile watershed in Thailand. Pattani watershed owes its unique mountains with areas of both mountainous and plain ones which make people can use lands for various purpose especially for their basic necessity. It is also the source of the quantity of water especially during the raining season in late October, in November and early December. Pattani watershed begins from the mount of Sankalakhiri in Betong district of Yala province. The water from the mountain flows at least two main directions merely to the south of the mountain, which is in Kedah State of Northern Malaysia and to the north of the mountain, which is in Yala, Thailand and end at the Pattani bay. Flowing of water, in Thailand side begins from the district of Betong, Thantor, Banangsetar, Krongpinang Yala Municipality area, Yarang, Nongchik and Pattani Municipality area. At Yarang, the channel of Pattani river is divided into two ways one flowing through the district of Nongchik, in Pattani, and then discharge into Thai gulf at Pattani bay, another one flowing down to Yaring district of Pattani province and then to Thai golf at Talokkapor bay. The length of Pattani watershed is about 200 kilometers under the area of 3,858 km.sq. It covers almost sphere of Yala and Pattani provinces with around 185 populations per km. sq. There are around 483,815 populations in Pattani watershed area.

Pattani watershed is in part of an important ecological system in which there are many ecological systems like the Hala-Bala forest, a tropical forest, mangrove forest, rainforest, freshwater ecological system, Pattani river and brackish water ecological system. These ecological systems are the large habitats to the divinity life’s include plants and animals that may not be found in other locations in other parts of Thailand. Pattani watershed is also an origin to life’s elements, natural resources and structures created by human beings which include infrastructure, grand structures and ancient structures. Life in this area has its own mutual actions which set up other 4 functions of ecological system namely the flow of energy, flow of water, flow of nutrient and gas transformation.

Comparing to other watersheds in Thailand, Pattani watershed plays significant roles as a source of biodiversity and ecological system, which all are very crucial to human beings. They trace lot of things from biodiversity to be food, dress, drug and recreation. People’s utilizing on biodiversity based on their experience and knowledge, make them comprehend to adapt to the environment and know to use in order to support there live as much as possible and as long as possible.

Under the wide-range and complexity of the ecological system in the Pattani watershed from the mountainous area, plain area, to the seashore area, the people to settle in such different areas and geographical characteristics, are also different in form of their cultural and social system. People react to the natural resources and biodiversity through the use of them for disease and sickness treatment, for consumption, for residence, for dress, for occupation, for daily behavior and for economic. The importance of culture to the people and communities of the Pattani watershed are alike. Several Communities in this area are as the same as the vitality of biodiversity. It then depends on how far human beings would realize on such significance.
As culture is related to the human beings, they are not able to avoid from the need of use and consume edible flora and fauna. To conserve culture means to preserve biodiversity as well. The big issue came out is that how the next generation can preserve culture and the use rightly on biodiversity as long as possible. The majority of people in this area are muslims, followed by Buddhists and other believers. This religious basic of the Pattani watershed people may be different each others in terms of routine and religious practices but in the matter of adaptation to the biodiversity is quite the same.

To understand people of the different ethnic and religious background is necessary in order to keep surviving together in peace and avoiding from the conflict. Although the evolution of multi-culture and biodiversity are two different things and contents, on the basis of human knowledge, experience and scientific research, as mentioned earlier, both depend on each others and at any time people look culture as an important element. Many cultural agents are sourced from environment and biology.

This integrated study examines the relation between culture and biodiversity. Preservative approaches through upholding the various cultural programs and activities made at the meantime preserving the life of animals, plants, trees, jungle, forest and other natural resources.

**METHODOLOGY**

The Methodology study was based on 2 approaches namely social and scientific approaches. Social approach used qualitative and quantitative method to get data. In order to get information qualitatively, researchers had set out 2 kinds of interviews namely focus groups and in-depth interviews while qualitative method came from the distribution of 2,000 questionnaires through out the line of Pattani watershed, which include 18 locations from 9 districts of Pattani and Yala province. The interview is also based on these 18 locations.

The followings are such 18 locations

1. District of Betong
   1.1 Betong
   1.2 Iyuweng
2. District of Thantor
   2.1 Thantor
   2.2 Banrae
3. District of Bannangsetar
   3.1 Bannangsetar
   3.2 Tanah putih
4. District of Krongpinang
   4.1 Krongpinang
   4.2 Sa-ei
5. District of Municipality of Yala
   5.1 Municipality of Yala
   5.2 Bado
6. District of Yarang
   6.1 Yarang
   6.2 Basa-ei
7. District of Nongchik
   7.1 Nongchik
   7.2 Tanjongpao
8. District of Municipality of Pattani
   8.1 Municipality of Pattani
   8.2 Puyud
9. District of Yaring
   9.1 Tanyong
   9.2 Bakong

Scientific method included examples of plants, animals and mushrooms, which emphasized on the categories of being extinct in the near future. The samples of plant may come from any part of or elements of it while animals may be through taking photo or still alive. Mushrooms were kept in completed characters. All samples were dated and then find the categories, scientific names and listed in a record. The samples then
classified into 2 major points namely their use and their status.

In details, researchers worked jointly with forestry authorities, local intellectuals and lending people at any locations as set above in order to get details samples as much as pastille. However, the documentary survey is basically the main idea of general understanding of the study, and this part is located at the beginning part of the study.

RESULTS AND DISCUSSION

Pattani watershed or Pattani Basin in waiting was firstly formed its communities at least in the sixth and the eleventh century. The research by Preeche Noonsuk, found that there are many archaeological sites in Pattani watershed. His research used the method of historical and archaeological survey shows the prosperity of trading and migration of Brahmanism in Pattani Basin, Peninsular Thailand and Southeast Asia. It appears at least 8 main locations.

Brahmanical communities in Pattani watershed flourished between the sixth to the eleventh century A.D. Some of them were discovered the first time from the research. The eight communities include Bana, Pakaharang, Prawae, Chalek, Banwat, Southern Basa workseng, Northern Busawokseng and khan Mahut. All of there communities located around “Tirtha”, the Brahmanical sacred place of Shivaism.

Tirthas combined together the in a group under the sacred structure called “Mandala”, the Brahmanical cosmology of Shivanism. The Mandala of Pattani watershed was one of the Mandalas in a system of Mandala of the Peninsular Thailand or ancient Nakhon Sri Thammarat on the Peninsular Thailand. It was important as Pattani watershed has the complete geographical characteristics with many canals that feed the surrounding Area. Thus, highly populated ancient communities and places of worship surely be located there. There particular influences appeared in the area of beliefs, politics, settlement, trade and education.

The influence of Brahman declined since the coming of Islam into region of Peninsular Thailand, Malay and other regions of Southeast Asia. In Pattani watershed was influenced by Islam during the 15th century A.D. Another the source mentions in the early of the 16th century.

Since they are basically based by the Brahmanical influence to their life as well as the principles of Islam, on the matters of cultural activities which they thought not contrastive to the religion, they keep practicing. As a result, the culture of the people in Pattani watershed is various and are many things related to the natural resources and biodiversity because they were born in this environment. In the lowest part of Peninsula of Thailand, Pattani watershed is the most oldest and strategy. Thus, the collection of cultural activities has long been evaluated with the influence of both inside and outside.

In the Pattani watershed, the evolution of community settlement, resource tenure and resource utilization divided into 3 periods just like what mentioned by Somyot Thungwa, Sirijit Thungwa and Vijarn Thaneerat. This evolution shows the development of the settlement to people to the inner part of watershed. The development had just found in the first part of the 20th century. These 3 periods can be described as below:

- **First Period**: 70 of years ago, the village was a new Muslim comers originated from the plain part of Pattani watershed, and the forest was still fertile.
Household and settlement were built on the river. Floodplains, swidden agriculture was practiced, fruit trees cultivated, and rice grown. Many products were also harvested from the forest, and the river was an additional food resource. The communities were free to utilize all resources as they wished, although the private household did not have permanent tenure.

- **Second Period**: about thirty years ago the situation changed as private property right began to be established. People from other provinces began buying land in the area. The forest was cut from the floodplains to the foothills in order to plant more fruit trees and para rubber. Many forest products were no longer available due to over-harvesting. After the para rubber was planted the communities and individuals began to forest though the government at tempted of preserve the forest through the national proclamations which attempted to prevent pioneering but these efforts were largely unsuccessful due to concessions of forests for longing and lack of officers to control the use of forest area.

- **Third Period**: the forests were largely cut by concessions, leading to this area of era and of government policies and strategies for conservation. This has had a direct impact on land use, and created conflict as government attempts to prevent forest settlement and some group of villages wish to establish community forests and use the forest productivity. Sustainably meanwhile, another group wish to exploit forest commercially.

The decrease of biodiversity in the forest area depends so much on the behavior of human beings. Naturally, diversity of fauna and flora has been gradually extinctive but it will be faster as the action of human beings for the particular purpose. This change is dangerous to the life in the future. The modern era make people change their life and culture. The need to use and utilize biodiversity and its habitats in order to support modern technology and commerce make people forget the sustainable the need of people to them. In order to uphold biodiversity and natural resource, the most practical one is uphold the diversity of culture in forms of activities, belief and values.

Geography weather and natural resource are the factors and limitations as instruments to promote the code of life in order to be consistent with people’s environment. Development of local wisdom and its preservation has decorated people to be in their own uniquely context, which reflects the multi-culture of earth group of people and be model to one generation to the following generations. Each generation receives its elder cultural norms such as belief, vision, value, costumes, behaviors, thought, models of works, skills in making decision and invention. All of these are the local culture which needs to be prevented and preserved.

Multi-culture can be indicated in details as the following:

**Multi-culture in residence**

Most of the people in the South, include those in Pattani Watershed, choose to build house near well, near temple (or mosque) near pear (port) and paddy field. In building a house, it needs to know the nature of weather and variation of nature. This is very fundamental to the mind of people. As a result, to design a house, weather and nature is a main factor to be considered. House is built with high pillars and each pillar is put on fundamental stones. This is made to the basis of being easy to more and avoid from flood. It is at the same time to protect from quick decay due to high humidity and
prevent from ants, white ants and reptiles escaped from the flood and climbed into house. While the materials used are from around. Roof and wall are made from different kinds of palm leaves meanwhile some kinds of leaves are used to tie parts of house structure. Local wisdoms know to use what kinds of wood and which part of tree to be used as part of house and different kinds of structures may cause of different in selecting different types of wood and trees.

In side house it classifies in to different partitions in order to support necessity of utilization and convenience. Rooms at least separate into 3 rooms namely bedroom for parents, sharing bedroom and living room. Inner part is kitchen with some space floor to serve a set of food and all members of family come to have food altogether. There is another small house separately to the main house used to store paddy rice.

**Multi-culture in consumption**

The south of Thailand is located in the area of equator. The weather is fairly hot and the wind blows strongly. This makes people be easy to be tired and needs enough food and energy to replace weakness. They believe that essential ingredient and strong taste help better breath. As a result, They mostly like to eat food being strongly spicy, salty, sweaty and sour.

They also do not like to kill animals that they use for labour namely cow and buffalo. In replacement to that shrimp, fish, shell and crabs are among the best choices to consume. The people also know to preserve food in many forms.

The people eat rice 3 times per day, morning noon and evening. Sticky rice is sweetly to use make for various sweet-meat or dessert. Sticky rice is also used for religious rites and in party. They usually have meal in the kitchen and having altogether among the members of family. The guests especially relatives will get warm welcome from host.

**Multi-culture in remedying diseases**

Treatment on disease and sickness had been relied mostly on the traditional treatment and medicine. They took medicine made from plants, trees and animals. At least in a village, there was a folklore doctor to assist childbirth and remedy diseases and sickness among the villagers. There is also a local wisdom that knows how to treat broken bone and sickness related to muscle and nerve vessels. However, from 4 decades ago up to now, people rely on the modern treatment and contemporary doctor. By year local wisdoms in this area become less.

Folklore doctors use 2 methods to treat disease namely 1) through knowledge 2) through trick. They mostly use such 2 ways altogether to make sure diseases and sickness are treated and relieved. These two ways of remedy can be transformed into new generation of folklore doctors given only to a very high moral personality and to uphold moral and value at any local doctors is one of the main conditions to be.

**Multi-culture in Dress and Costume**

The evidence on archaeological perspective shows that people in this region dress clothes for the purpose of prevention of heat and cold. The type of clothes can be warm the body. Since the region is at the equator and the length of the day and night time is equal as well as the shift from one season to another season is not variant, the people prefer to wear the same style of dresses and clothes. Their dress just like what wore by people in Malaysia and Indonesia as they also settle at the same line. Besides, multi-culture is also in working, wording believing and so on. The study focus multi-culture relating to consume, working, remedy on disease and residence and through such kinds of cultural aspects
they represent the preservation on the biodiversity as well. This because all of them, in Pattani watershed area concern with the biodiversity.

The result of answers from the questionnaires found that there is high value on the malted of multi-cultural and most of them are Muslims under its unique daily pattern and behave on the aspect of multi-culture in consume, it was high as well and they favour to eat aquatic animals. Multi-culture in residence is also high as the people remain to build the classical pattern of house with materials found in the forest areas or bought from nearby store. To build house they consider the importance of location and simplicity to find water reservoir and convenience in communication. On the aspect of multi-culture of working is in high value. The people mostly work as a small business and then agriculture. Multi-culture in remedy is the level of medium.

Concerning with the conservative utilization of biodiversity found at the level of height. This reflect from various activities of utilization such as land use worthy use of trees and plants for agricultural purpose. In some aspect of utilization are needed to be monitored or even to control like the use of rubber trees and same important type of trees on the purpose of commerce.

Statistically found that multi-culture on such 4 aspects have positively related to the conservative utilization to the biodiversity with the value of .01. However, in making focus group and in-depth interview it found few differences in the matter of this relation. From direct interviews, they tried to present that in term of thought, opinion and theory are fairly well but practically it is hard to do so. They thought at least the value of conservative utilization would be the mild medium not at high value one.

The study found that the importance of preservation on the diversity of culture in Pattani watershed is high. The result of study is consistent to works of many researchers both in Thailand and oversea. Suthi Thepsuthiwong and Benchawan Buakhuanin the study on collection and analyze of information related to local wisdoms in Pattani Province to uphold the tradition of local wisdoms in building house and things related to house, and in working both are very important to maintain as long as possible and they impact a lot on the conservation of biodiversity, if both wisdoms can be preserved. However, the people in the Pattani watershed utilize natural resources and biodiversity at various levels emphasizing on aiming outcome and survival.

Rampha Siriwong with her study on the existence of custom culture (food) in Lanna, an old ethnic-settled mostly in northern part of Thailand, found that this community preserves its own ways of life and traditional culture, which related too much to the relationship of relatives, stable believe in Buddhism and strong conservation of the traditions.

This basic make them maintain to preserve old style of cooking food and meals whether for purpose of daily living or for religious rituals. The head of family plays significant role in transforming this tradition and members of family still learn to do food based on their culture and style. It is just like what happened to the people in Pattani watershed area, which food is part of significant areas in daily life since Muslims must eat and consume only permitted food (Halal) following to the principle of Islam.

In order to uphold biodiversity in the area of Pattani watershed, as showed in the result, it needs participation of people
themselves local and national authority based on policies which can be practiced well. One major factor why the biodiversity in Pattani watershed still preserved is that the chaos and instability of the situation in this area. This make investors fear to approach the location on the purpose of commerce. However, the much more important stand is that they themselves still remained practiced and preserved their own culture of various aspects in tern biodiversity in height.

CONCLUSION

Biodiversity is as necessary to the people in Pattani watershed area as the multi-culture of many aspects concerned with their survive and existence. People who can preserve activities, values and morals, means they also can, at the meantime, preserve biodiversity\textsuperscript{11}. The most important persons to keep forward on this matter are leading personalities in each community, initiated from head of family, to leader of village, to local politician, local wisdom and leading personalities in province where Pattani watershed located. Participatory of all levels of people is very important to hold mission going ahead so that biodiversity would be existed as long as possible.

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