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Natural resource management policy
implementation at the local level:
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around a Thai national park

Aree Suwanmanee
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Suwanmanee, Aree, Natural resource management policy implementation at the local level: tensions and contradictions in and around a Thai national park, Doctor of Philosophy thesis, School of Earth and Environmental Sciences, Faculty of Science, University of Wollongong, 2009. <http://ro.uow.edu.au/theses/3061>

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**NATURAL RESOURCE MANAGEMENT POLICY
IMPLEMENTATION AT THE LOCAL LEVEL:
TENSIONS AND CONTRADICTIONS IN AND
AROUND A THAI NATIONAL PARK**

A thesis submitted in partial fulfillment of the
requirements for the award of the degree

Doctor of Philosophy

from

UNIVERSITY OF WOLLONGONG

by

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2009

Certification

I, Aree Suwanmanee, declare that this thesis, submitted in fulfillment of the requirements for the award of Doctor of Philosophy, in the School of Earth and Environmental Sciences, University of Wollongong, is wholly my own work unless otherwise referenced or acknowledged. The document has not been submitted for qualifications at any other academic institution.



Aree Suwanmanee

November 2009

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Acronyms and Abbreviations

CEK	central environmental knowledge
CNRA	central natural resource agency
CNRC	central natural resource conservation
CNCRC	Committee of Natural and Cultural Resource Conservation, under the National Environmental Broad
CRCC	Committee for Rivers, Canal Conservation, under the National Environmental Broad
DEQP	Department of Environmental Quality Promotion
DWR	Department of Water Resources
IUCN	International Union for Conservation of Nature
KU	Khonkaen University
LNRC	Local natural resource conservation
MU	Mahasarakhum University
NGO	Non government agency
NPD	National Park, Wildlife and Plant Conservation Department
NR	Natural resource
NRC	Natural resource conservation
NRCP	Natural resource conservation for protection
NRM	Natural resource management
NRM/C	Natural resource management and conservation
NRMS	Natural resource management for sustainable utilization
NRNG	Northern regional NGO Group
ONEP	Office of Natural Resources and Environmental Policy and Planning
PLON	The name of a part of the national park in the study area
rai	Thai measure (1 rai = 400 square meters)
SWOT	Strengths, weaknesses, opportunities and threats
UN	United Nations
UNCED	United Nations Conference on Environment and Development
UNEP	United Nations Environment Programme
UNESCO	The United Nations Educational, Scientific and Cultural Organization
WCPA	World Commission on Protected Areas
WPCF	Wildlife and Plant Conservation Foundation
WWF	World Wildlife Fund for Nature (Thailand)

Abstract

This thesis traces the influential global conservation concepts playing various roles in the Thai natural resource conservation system. The overall purpose of this study is to investigate the intersection of conservation policies and cultures in and around national park management in Thailand. The objectives of this study are to look at approaches, concepts, and models of natural resource conservation in practices and discourses of the central agencies, local park officials, other official agencies, NGOs and indigenous people. The thesis highlights tensions and contradictions at the local level as national policies are implemented. The thesis results inform proposed strategies for future national park management and local resource conservation and utilization in Thailand.

Qualitative research approaches were the most appropriate methodological choice to investigate and analyse perceptions, objectives, values, practices of different groups. Informal conversational interview, semi-structured interview and unstructured direct observation were the techniques for key data collection. Discourse analysis was the main analytical method.

The results show that there are two main conservation concepts influencing conservation policy and implementation in and around the national park case study. One concept is the orthodox national park model based on conservation by excluding humans from a conservation area, and the other is a newer conservation concept based on the ideas of sustainability, participation, and biological conservation that accept humans as part of ecosystems. The two different concepts produce different cultures, discourses and practices in the Thai conservation system. A key issue demonstrated in this study is that the orthodox national park model plays a role as a cornerstone and strong influence on the culture of the Thai natural resource conservation system. As a result, the rights, interests, needs and values of indigenous people are marginalised by national park officials in national park management. Although, the new conservation concept that supports interests of indigenous people is accepted in the park policy, in practice it is devalued by the national park officials.

The idea and form of the national park cannot be divorced from its social origins. The idea of the national park as a space of wilderness or pristine nature is had to sustain.

Rather, it is a cultural landscape that embodies multiple cultural constructions of people and nature by both park officials and indigenous villagers. There are tensions and contradictions between these cultural groups. The tensions and contradictions are based on different values of the role of park resources for utilization or protection.

This study suggests that the villagers and their uses of park resources should be considered to a greater extent on social equality grounds. Their management and use of resources needs to be recognized in local natural resource planning and management. In addition, the park policy makers should renew national park management to integrate with the two different conservation concepts. They should accept the values of villagers who live in and adjacent to the national park and take them into account in national park policy and implementation. In this study, models of joint management are offered as an alternative to current Thai national park management. This can support both the needs and values of villagers and those of ecological conservation.

Acknowledgements

This thesis would not have been completed without the assistance and support of many individuals and organisations. I am particularly grateful my supervisors who have supported me and believed in my ability to finish a doctoral thesis. I have also appreciated their sustained encouragement and supply of relevant academic documents and research instruments.

First of all, I am grateful to my supervisor Dr Nicholas Gill, who can receive full credit for his excellent guidance and support throughout my later time period of the doctoral program. His valuable guidance has made possible the completion of this study. I am also especially grateful to Professor John Morrison, who has a rich knowledge and long experience with PhD students. He has long advised me from at the beginning until the finish of my study. My special debt is also owed to Associate Professor Greg Hampton, my initial supervisor, for his most generous and benevolent support, for his tremendous help with the data analysis technique, provision of relevant text books, and his sustained encouragement. The extremely difficult task of data analysis process, especially data translation and discourse analysis, would not have been successful without him. I am extremely grateful and indebted to Dr Heather Jamison from the English Learning Development Student Services for her remarkable assistance with improving my thesis writing and she gave given me encouragement when I became dispirited. I owe my deepest thanks to her.

Other people have also been of a great help during the thesis process. I also want to express my warmest thanks to the staffs of the School of Earth and Environmental Sciences who have aided me in various ways. I am grateful to my father, mother, and my brother for their devoted patience and help during the long period of my study. Special appreciation is also to all of my friend and college: Somsak, Chetta, Phat, Nantika and Siriwan for their comments and support. Last, I would like to acknowledge the Thai Government Scholarship provided by MOSTE of Thailand for financing my study.

Finally I would like to declare that certain omissions and errors appearing in this thesis are my own responsibility, and certain suggestions from the readers, whom I thank and accept in advance, for the future improvement of this study.

Aree Suwanmanee

November 2009

Chapter 1

Introduction

1.1 Rationale: the forest, local villagers, and their values

In order to consider alternatives for local natural resource conservation, this study addresses basic problems related to the attempt to protect the natural resources from human interference, and to local villagers¹ who live in or adjacent to forest conservation areas. It examines different resource conservation policies that depend on divergent perspectives on human and natural values.

Under the influence of western culture on natural resource conservation, the values of tropical forests and local villagers in Thailand has been reversed; the tropical forest is of high value, whereas the local villagers are often viewed as harmful to natural resource values (Laungaramsri, 2002). This state perspective and attitude lead to marginalization of local villagers, and subsequently results in social conflicts, due to modern attitudes about tropical forest protection.

After the Second World War, the value of tropical forest was turned to a means of conservation (Roth, 2004b). The tropical forest, through the lens of western conservation experts, is a valuable source of natural resource integrity, of various flora and fauna, and of habitat (Wiggins et al., 2004). The perceptions of ‘western’ forest conservation are for supporting human recreation, biological study and further utilization. With a conservation perspective on the value of the tropical forest, local flora and fauna have been investigated and many have been labeled as endangered and rare species. These species have then been promoted as being of unique value to the national estate, and it is argued that their habitats need protection (Johns, 1997; Neumann, 1998). Furthermore, some tropical forest places

¹ The term ‘local villager’ is generally used to mean the people, whether a tribe, indigenous people, rural villagers, or a minority group who live in the forest and are involved in the implementation of protected areas. This local villager is addressed as ‘forest people’ in the fifth World Parks Congress in 2000 (Brosius, 2004), and in human geography research (Wittayapak, 2008).

where unique fauna and flora are located have been nominated for world heritage. Under this perspective, many tropical forest areas become national parks. Recently, the value of tropical forest has become very important in the view of many global conservationists and thinkers because they understand that tropical forest can moderate regional and global climate (Schwartzman et al., 2000). Tropical forests have become the 'a global lung'. This can reduce carbon dioxide and other greenhouse gas emissions and mitigate climate change (Johns, 1997).

Tropical forest, particularly in Thailand, is not a pure non-human habitat; rather it has long been occupied by local villagers. The local villagers have cultures and ways of life that connect spiritual and materially with the forest (Laungaramsri, 2002). However, after the western mode of forest management was introduced to Thailand in the middle of the nineteenth century (Hongladarom, 2004), the values of tropical forest have changed from those associated with local villagers. The value of tropical forests has expanded from utilization to conservation, while the values of the local villagers have been continuously downgraded. From the colonial period, tropical forests became a heavily exploited source of valuable hardwood trees for export, and local villagers were excluded from the forest areas which were preserved for the concessions of colonial logging traders (Johns, 1997; Roth, 2004b; Hares, 2008). The value of the villagers was as labourers in the logging industry.

In the mid-twentieth century, the forest value in Thailand changed (Laungaramsri, 2002) when the tropical forest landscape was increasingly viewed as beautiful scenery for human recreation, biological study, and wildlife conservation. Certain forest areas were established as national parks and the forest value was as a symbol of national conservation (Laungaramsri, 2002). However, local villagers who were still embedded in the forest before the establishment of the national park or other pristine protected areas were considered as an undesirable group, as the destroyer of forest values (Johnson & Forsyth, 2002; Roth, 2004b), and as the 'forest eaters' (Sato, 2000 p163).

The values of local villagers have been addressed again in the global conservation fora of the late twenty century (Adams & Hutton, 2007). Many global fora have addressed the local villagers and their values in the context of local natural resource conservation: such fora as ‘the Agenda 21: Program of action for sustainable development’ in 1992 (UNEP, 2007a), and the Convention on Biodiversity (UNEP, 1992). In addition, the fifth World Parks Congress of 2000 supported the role of local villagers in national park management (Brosius, 2004; Adams & Hutton, 2007). These fora argued that local villagers and their cultures are of significant value for supporting sustainable conservation². In this thesis, this perspective is called the ‘new conservation concept’. In Thailand, the Thai government has recognized the role and rights of local villagers in national conservation policy, which have also been recognised in the Thai constitution 1997 (Johnson & Forsyth, 2002).

Consideration of local villagers in national parks is evident in debates between some ecological conservation advocates and others often social scientists, who are critics of the idea of pristine protected areas (Adams & Hutton, 2007). The ecological conservation advocates consider that the local villagers’ activities are a cause of a biodiversity crisis in national parks and support the need for strict park management. For example, some biological researchers claim that the people are a cause of endangered species decrease and constitute a threat to them. These researchers suggest that better protection of these species involves the strict regulation or exclusion of human activities in national parks (Grassman, 1999; Schwartzman et al., 2000; Ngoprasert et al., 2007). In addition, the local villagers in many forest areas are viewed as agents of deforestation (Leach & Fairhead, 2000). Such groups are frequently labeled as obstructive to good national park management (Wittayapak, 1996; Walker, 2004; Wong et al., 2007; Hares, 2008). National park agencies³ have the stereotypic perception of them as a problem for natural resource conservation policy (Buergin, 2003). Moreover, in debates over poverty linked to exclusionary park

² The term ‘sustainable conservation’ in this thesis refers to a perspective of conservation that considers the humans as part of an ecosystem and facilitates the balance of the forest people in protecting and simultaneously using natural resources as ‘new conservation’ or ‘new conservation concept’.

³ The term ‘national park agency/agencies’ in this study refers to official agencies that have responsibilities for the national park management. These agencies are currently under the Thai National Park, Wildlife and Plant Conservation Department (NPD), and the agencies had been under the Royal Forest Department (RFD) before the national parks were transferred to the NPD.

management, some conservation biologists claim that national park implementation cannot be a cause of such poverty because conservation and poverty are different issues (Sanderson & Redford, 2003; Adams & Hutton, 2007).

On the other hand, other conservation experts, particularly in the disciplines of sustainable development (Timmer & Juma, 2005; Adams & Hutton, 2007), human rights (Neumann, 1998; Campbell, 2005; Adams & Hutton, 2007), and political ecologists (Clapp, 2004; Robbins, 2004) criticize exclusionary national parks. They argue that national park implementation often demarcates a zone as of non-human biophysical authenticity from which people are to be removed or excluded. This results in many social problems such as poverty, loss of human rights, loss of access to livelihood and cultural resources, and unequal land allocation (Neumann, 1998; Siurua, 2006). This is because park management often overlooks local villagers' values, cultures, existing uses, and dependency on natural resources (Suchet, 2001).

The different perspectives on where local villagers belong in relation to national parks derive from global conservation institutions to a significant extent. Where various conservation philosophies, concepts and approaches are transferred to Thailand, they have influenced current Thai natural resource conservation and, consequently, have influenced local conservation practices. That is, the tensions and contradictions resulting from the operation of the different conservation concepts appear in conservation policy and in national park management.

At the central level, tension between national park agencies and other agencies occurs when the national park agencies view the new conservation concept as contradicting traditional park management and reject it in the national park policy. Meanwhile, other central agencies claim the new concept can complement park management. They attempt to position the new conservation concept in conservation policy and national park management, and operate it in local communities in buffer and corridor zones of national parks.

The difference in conservation policies leads to tension between the national park practitioners and the local villagers who live in or are adjacent to the national parks. In general, there are long-held tensions between local villagers and national park officials where orthodox park management has led park officials to attempt to remove local villagers from national parks. However, the tensions have increased after the new conservation concept was introduced. Although, the policy of the new conservation concept provided for local villagers to have the rights to access parks and their natural resources, their rights are not recognized to a significant extent by the national park officials.

Another effect occurs in the practices of the local villagers. When the different conservation concepts are simultaneously implemented in a locality, local villagers become the subject of conflicting politics from different government agencies and other agencies. They may be denied access to the national park by national park officials and/or they may be positioned by non-park agencies or NGOs in conservation activities that support them being involved in both sustainable utilization and conservation of national park resources. The contradictions and the discourses of people and nature that generate and characterize these issues and positions are a key focus of this thesis.

1.2 Aims and Objectives of the Study

This thesis involves the study of the natural resource conservation in an area that is encompassed within national park management in Thailand and which relates to conservation policies and practices at the central and local government levels. Conservation practice is explored from the perceptions and practices of different groups, including national park officials, non-park agencies, NGOs, researchers and indigenous people. Findings from this research are used to suggest future approaches to national park management.

The aim of the thesis is to investigate the intersection of conservation policies and discourses of culture and nature in national park management in Thailand. Through a case study of a national park, the thesis will pursue the following objectives:

- Examination and evaluation of the existing conservation approaches, concepts, and models of natural resource conservations in the central relevant agencies. This objective is substantively addressed in chapter 5;
- Investigation and evaluation of local natural resource utilization and conservation activities in a local community and the national park area. This objective is addressed in chapter 6;
- Evaluation of the fundamental problems of natural resource conservation. This objective is considered in chapters 5, 6 and 7; and
- Based on an analysis of current issues, develop strategies for future national park management and local resource conservation in Thailand. This objective is presented in chapter 7.

1.3 Study Scope

Two key foci in this study are conservation concepts and the local villagers. Two main conservation concepts run throughout the thesis. One is the orthodox conservation concept based on a separation of nature and culture, and represented primarily here by the Yellowstone National Park model. This model has exerted a strong influence on Thai conservation policy and practice. The other conservation concept is one that considers humans as part of the ecosystem in a protected area. This concept has emerged under the umbrella of sustainable development philosophy. In this thesis it is referred to as the ‘new conservation concept’. These concepts overlap in local practice. Further details on these two concepts will be presented in chapter 2.

The other key focus in the thesis is the local villagers. There are many groups of local villagers living in and near the tropical forest in Thailand. The local villager groups in the study area of this thesis live in or near an official conservation area. In this thesis, the local villagers are from an indigenous ethnic group, the Karang.

1.4 Overview of the Thesis

The thesis is divided into seven chapters. Chapter 1 has served to introduce the aims, rationale and scope of the study. This section will summarize the contexts of each chapter. The literature review in chapter 2 describes the concepts of natural conservation that intervene in the relationship between humans and natures. Two modern conservation concepts are focused on: the orthodox conservation concept that separates humans from nature and the new conservation concept that attempt to balance the role of humans against the functions of non-human ecosystem and incorporate use into conservation strategies. The literature review relating to the two concepts particularly highlights what writers and researchers have found about the historical emergence, development, and connection through conservation policies and practices at the international, national, and local levels.

The qualitative methodology and approaches in the study are presented in chapter 3. The study-area and interview strategy are outlined. Then, the qualitative data collection using three approaches including informal conversational interview, semi-constructed interview, and unstructured direct observation are discussed. The data analysis and interpretation by discourse analysis approach are also outlined. The final section includes contexts of trustworthiness and validity that are significant research qualities.

Chapter 4 presents the background to the Thai national park policy, the local political geography and indigenous people. This background of the history of the national park policy is continuous and given in more detail than in chapter 2. The Kaeng Krachan National Park is presented to illustrate the geography that changes the area as a human-free activity space. In addition, the background on the Karang ways of life and cultures are presented in this chapter. This background information contributes to the understanding of their practices of, and perspectives on, the local natural resources and national park implementation.

Chapter 5 presents the main findings regarding government policies of natural resource conservation. This chapter primarily uses the results of interview analyses as the main

source of presentation. This chapter sets out the perceptions and attitudes of global concepts including national park models, biodiversity, participation, and sustainability, which are influential in Thai natural resource management and conservation (NRM/C). The three themes of the components of local natural resource conservation that emerged in the findings are natural values, conservation space, and villagers and their knowledge. These themes are illustrated in a story of wild honey harvesting. This chapter also presents the transfer of the central agency knowledge and technology to local agencies. Finally, this chapter focuses on the mechanisms of the national park agency to maintain the orthodox national park.

Chapter 6 presents the main findings regarding the national park implementation and indigenous activities related to the national park. This chapter applies the concept of ‘space’ to the power relations occurring in the study area. The results from interviews supplemented by personal observations reveal the perceptions, attitudes, and practices of national park officials, non-park agencies, and the Karang. The final section summarizes the findings in terms of tension, contradiction, competition, incompatibility, and different views of natural resources and national park management.

Chapter 7 provides the conclusions from the findings of the previous chapters and discusses the significance of the results in response to the aims of the study. The aim of recommending development of better conservation policy and local practice is addressed, pointing out how the current mechanisms of park management are not appropriate. Directions in which national park management should go are suggested. The final aim addresses recommendations for future study.

In summary, chapter 1 has provided the foundation and rationale for the study. In the next chapter, the literature relating to the forms of natural resource conservation that encompass national policy, resource values, and local communities is reviewed.

Chapter 2

Conservation Concepts, Practices And Frameworks

2.1 Introduction

This chapter reviews the context of the development of natural resource conservation concepts and implementations. Rather than providing a detailed review of all the literature on the broad area of natural resource conservation, the Chapter will highlight the literature concerning the two main modern conservation patterns that have been generated and developed to address the relationships between humans and nature, and review what writers and researchers have found to be their roles in the global and national and local conservation policy and practice. Section 2.2, a key section, presents a review of the literature describing the theme of a conservation concept that was developed based on the separation of human/nature relationships. This key theme focuses on the ‘Yellowstone model’, and what writers and researchers have found to its role in global, national, and local policy and practice is reviewed. Section 2.3 presents a review of the literature looking at a ‘new’ conservation concept that has been developed for a suitable creation of human nature relationships and addresses its role in relation to the traditional conservation model. Section 2.4 is a summary of this chapter and the focus of this study. The following paragraphs in this introductory section provide an overview of natural resource concepts.

The relationships between humans and nature are complex; there are unclear boundaries in their relationships (Ingold, 2000), because humans and nature are mutually dependent upon one another. As in the studies conducted by Berkes *et al.* (2003) and Robbins (2006), this study acknowledges the complex relationships among/between humans and nature with particular reference to various groups of people and how they relate to natural resources which they use in specific ways.

This section introduces the broad understanding of conservation concepts in the light of human/nature relationships. Natural resource conservation is a political mechanism of intervention in the relationship between humans and nature (Johns, 1997). The politics of the intervention vary and have been changed, rebuilt and reformatted over time according to the relevant social groups who are involved in exercising power on natural resource domains and over other social groups. One traditional mechanism of natural resource conservation is exclusion of humans from the ecosystem. This was generated using orthodox scientific concepts and practices whereby natural things were considered as the other, wild or untamed (Coates, 1998), and humankind was considered as separate to natural systems (Malpartida & Lavanderos, 2000). Another intervention mechanism has been created to support more interconnected relationships between humans and bio ecosystem (Ferraro, 2001). This mechanism is based on the idea that humans are part of, and embedded within, natural systems; humans and other components of natural systems are inseparable (Ingold, 2000).

There are, therefore, two broad conservation concepts in the light of human/nature relationships. Callicott et al., (1999) separated the recent conservation philosophies into two norms: ‘compositionalism’ and ‘functionalism’. As shown in Figure 2-1, the compositionalism norm emerged from the traditional disciplines of biology and ecology that set humans apart from nature, as if humans are not symbiotic components of the ecosystem and are a threat to nature. The other conservation norm under Callicott is functionalism that views humans as a presence within the ecosystem (Callicott et al., 1999). In this latter perspective, humans are considered as part of the ecosystem (Robertson & Hull, 2001); they play roles as producers and consumers in a variety of relationships with other components of ecosystem.

The two different philosophies lead to different perceptions of the relationships between humans and nature, and generate fundamentally different assumptions about resource values and conservation concepts (Callicott et al., 1999). These differences in perceptions, values and concepts are the foundations of divergent decisions, directions, approaches and

practices in natural resource conservation (Robertson & Hull, 2001) at global, national, and local NRM scales.

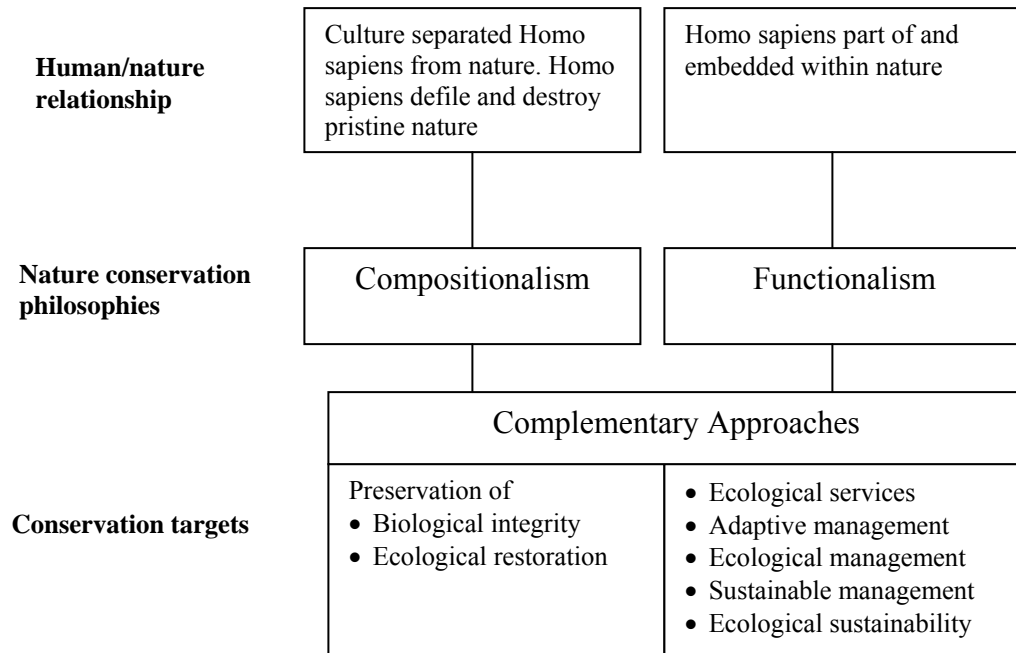


Figure 2-1 Relationship between the two different conservation norms based on human/nature relationships (Developed from the work of Callicott et al., 1999)

The conservation philosophy setting the humans apart from the ecosystem and as a threat to nature is the foundation of the orthodox conservation concept, and is represented in the Yellowstone model of national parks. The main purpose of this philosophy is to restore resource integrity and to preserve natural resources as pure, pristine, untouched, and desirable (Castree, 2001; Adams & Hutton, 2007).

The other conservation philosophy, considering humans as part of the ecosystem, is the foundation of sustainable natural resource conservation. The implementation of natural resource conservation, under this concept, is to balance and integrate the roles of humans with the functions of other things in the ecosystem. The purpose of this conservation philosophy is to support the provision of sustainable ecosystems, ecological management, and development for human beings in the short and long terms. This concept has been shaped under the umbrella of ‘sustainable development’, and has assumed a key role in

conservation policy and practice in recent decades (Worboys et al., 2001; Newburn et al., 2005; Adams & Hutton, 2007).

2.2 Exclusionary Conservation and the Yellowstone Model

The literature discussed here covers the key elements of the orthodox conservation concept that are normative in an exclusionary model of conservation. It began early in the 1870s but was particularly dominant until the middle to late twentieth century. At this time in the colonial era, the extraction and utilization of natural resources in all parts of the world were criticized by scientists as being a cause of environmental problems (Jeanrenaud, 2002; Suchet, 2002). The criticisms concerning problems of natural resource depletion and misuse by human beings were influential in calling for a solution to protect natural resources. One popular solution to serve as natural resource conservation was to separate human activities from nature, an approach that Adams and Hutton (2007 p155) call 'ideas of pristine nature'. Today, this conservation concept emphasizes the natural values of biological integrity (Robertson & Hull, 2001; Adams & Hutton, 2007), and people are seen as impacting on these natural values and as destructive to the natural integrity of ecosystems (Kapoor, 2001; Jeanrenaud, 2002; Adams, 2005). In this view, in order to protect natural resources and value them, specialized spaces need to be created as pristine, untouched and desirable (Castree, 2001, p.6), and to exclude humans from such spaces. The quotation below illustrates the exclusionary conservation concept that is characterized by unique landscape and natural ecosystems which are to be protected as space without human disturbance. Such a space becomes a source of habitat for animals and threatened species.

A place delineated by sealing off portions of wilderness and their animal inhabitants, and by restricting or banning human intervention, are like putting a 'do not touch' notice in front of a museum exhibit: we can observe, but only from a distance, one that excludes direct participation or active 'hands-on' involvement (Ingold, 2000 p 68)

The Yellowstone National Park model is a dominant model of orthodox preservative conservation (Neumann, 1998; Adams, 2005; Eaton, 2005; Adams & Hutton, 2007). This is a reference to the Yellowstone National Park model that has been an emblematic example of normative conservation design as a 'realm of non-human biophysical authenticity' (Campbell, 2005 p. 293), that provides for the interaction of mutually dependent non-

human species, excludes human settlement and strictly forbids almost all activities that would consume wild products (Clapp, 2004; Adams, 2005; Adams & Hutton, 2007). This orthodox national park model has been copied in almost every country, and has been particularly popular in Africa (Neumann, 1998; Adams & Hutton, 2007).

The orthodox national park places a high value on the maintenance of natural resource integrity. By its supporters, it is seen a last resort amid crisis for protecting endangered species and their habitat (Terborgh, 1999; Odenbaugh, 2003). It is also seen as valuable in preventing desertification and deforestation, and for maintaining hydrological stability (Johns, 1997). Currently, particularly in tropical forest national parks, this system is seen by some global thinkers as a means to mitigate regional and global climate change (Johns, 1997; Schwartzman et al., 2000), and to supply sufficient water for downstream use (Terborgh, 1999). In order to provide the preservation of natural resource integrity, strong and well defined boundaries surrounding national parks and other conservation areas are seen as a necessary mechanism. Such boundaries can provide a safe place for wildlife. Also boundaries can make it very clear that these conservation areas are inappropriate places for human activities.

2.2.1 Role of the preservative and Yellowstone models at the global level

The purpose of this section is to explain the influence of the orthodox conservation concept at the global level, and how it contributed to the establishment of international conservation institutions, development of particular approaches, and conservation networks at the global level.

International institutions who have played a key role in promoting conservation areas were established in the twentieth century and played a role in developing and distributing the orthodox conservation concepts and models to international and national agencies (Worboys et al., 2001). The first international conservation institution, established in 1948, was the International Union for the Conservation of Nature (IUCN). Its main role is to support natural resource conservation in the light of exploitation of natural resources for

modernization. Later, the Provisional Committee on National Parks under the IUCN, now called the World Commission on Protected Areas (WCPA), was established in 1958. This institution played a role in listing and classifying forms of conservation (Adams & Hutton, 2007). The ICUN and WCPA have worked under a model for the pristine protected areas that emphasizes a strict protection of natural integrity from human disturbance. There are many different forms of this orthodox conservation concept that have operated with the support of these institutions, such as wilderness, national parks, nature reserves, natural monuments, habitat/species management areas, and protected landscapes (Worboys et al., 2001; Dudley, 2008). The United Nations Educational, Scientific and Cultural Organization (UNESCO), established in 1945, developed and supports a world heritage system for natural resource conservation (Worboys et al., 2001).

In the development and transfer of the orthodox conservation concept, international conservation institutions have developed this concept in different ways, such as categorization of conservation areas, classification of natural values, and development of technologies for conservation implementation. The IUCN developed the Yellowstone model into different forms, such as national parks, and wilderness areas (Dudley, 2008) and other types of protected areas that embody the separation of human habitat from conservation places.

Classification is a scientific approach (Sibley, 1995; Howitt & Suchet-Pearson, 2003; Mogens et al., 2006) that is part of a strategy and power exercise for social control. It has been applied in global natural resource conservation since the middle of twentieth century (Klooster, 2002; Siurua, 2006). For example, IUCN and WCPA developed six categories of protected areas (Worboys et al., 2001; Dudley, 2008), and UNESCO developed guidelines for classifying and establishing world heritage sites. In addition, certain wildlife and geographic features were classified by scientific experts to support significant and important values that are needed to protect these resources (Grenier, 1998). For example, the classification of wildlife and wild plants catalogues them as endangered, threatened, rare, and native species. Such species are claimed as being important for the future well-being of humans. According to Takacs (1996), the need to protect these species can provide

a powerful rationale for the establishment of conservation areas and related regulations. In addition, certain landscapes that were evaluated by scientific experts as significant for natural integrity can also be argued to be significant for conservation as habitat (Grassman, 1999; Robertson & Hull, 2001).

The international conservation agencies support the development of advanced technologies for management of the protected areas. Thus, technologies, such as satellite imaging systems, global positioning systems and other geographic information software are employed to designate and enclose natural resource conservation areas (Campbell, 2005; Adams & Hutton, 2007). These technologies and approaches are distributed to the international and national agencies in several ways. One means of technological transfer is in collaboration between international conservation agencies. This collaboration can reduce the incompatibility of different conservation concepts that are held by different international agencies, and facilitate transfer of technologies, approaches, information and funding between international conservation agencies. For example, the world heritage approaches developed by UNESCO can be included in the IUCN protected area categories.

2.2.2 Influence of the preservative and Yellowstone models at the national level

The orthodox conservation concept developed in the global arena has been distributed to the national level of activity via both colonial powers (Suchet, 2001) and global networks. International institutions (e.g., IUCN, UNESCO) utilizing the orthodox conservation concept have influenced national conservation policy making in many countries. The technologies, approach and funding from these organizations have been distributed to national agencies via experts, treaties and grants (Hirsch, 1990; Keeley & Ian, 2003). In addition, these institutions, such as IUCN, have created a network with members in over 160 countries (Thailand is one such member). The national members gain knowledge, technology and funding from the international conservation institutions to establish their national conservation policies, organizations and protected areas. For example, the Tanzanian government set up wildlife and national park laws to protect the rhinoceros because of support from the IUCN (Neumann, 2004; Adams & Hutton, 2007).

In Thailand, the orthodox conservation concept was initially transferred in the colonial period (Vandergeest, 1996; Sato, 2000). The Yellowstone National Park model introduced in the 1960s has been used as alternative for protecting Thai landscapes and ecosystems from destructive human activities, with the support of ICUN and western experts (Hirsch, 1990; Roth, 2004b; Hares, 2008). This international support enabled the Thai government to establish national park agencies, National Park Act, and national parks from 1961 (Hirsch, 1990; MacKinnon 1997; Wittayapak & Dearden, 1999). As a result, national parks have been established in many landscapes where are required for livelihood of non human species and for biodiversity values (Dearden, et al., 1991). Further detail on the Thai national park history will be provided in chapter 4.

Overall, the human/nature exclusion conservation concept, for example, the Yellowstone National Park model, which is organized through the global conservation institutions, has been influential in Thailand and many countries. When such a national park model is introduced into many local areas, all or certain parts of local communities can become part of national park spaces. These changes impact at the local level, particularly affecting the components of local community located in areas of conservation operations. The following section will review the contexts of national parks and local communities, and their relationship.

2.2.3 National parks and local communities

This section outlines three key aspects related to the implementation of national parks. They consist of certain components of the local community, national parks in relation to the community, and certain issues in villagers' responses to national park implementation. The following subsections will review each of the three aspects.

Firstly, with respect to certain components of the local community, a local community area is considered as having land based natural resources. This land may be subject to the conditions inherent in mountains, plains, creeks, canals, riverbanks, swamps, lakes and coastal zones (Department of Land, 2000), and a variety of natural resources and

ecosystems, whether they be animals, plants, water, or air with which people are in close contact. A community is not homogenous or unique in its social structures, rather a community contains complex social relationships, structures, norms and multiple social agencies (Agrawal & Gibson, 1999; Leach et al., 1999; Berkes et al., 2003). Figure 2-2 illustrates the components of a local community containing multiple actors, both humans and non-human. These community components interact within the community and with other outside communities.



Figure 2-2 A local community and its connections [Developed by Berkes *et al.* (2003) and Malpartida (2000)]

Figure 2-2 shows a local community place (the smallest ellipse) that is presumed to be a small ecosystem (Malpartida & Lavanderos, 2000; Berkes et al., 2003). This small ecosystem consists of a human social component and a natural social component. The human society component consists of varieties of social groups, livelihood activities, social and cultural institutions, etc. The social groups and their cultures are made up of different kinds of individuals who are connected together. They also connect to outside groups by a social network (Line B in Figure 2-2).

Similarly, the nature component consists of various ecosystems such as water, wild animals, wild plants, forests, wetlands, agricultural land, etc. Each natural resource nests

with other natural resources in the ecosystem within the community and is connected with larger ecosystems (Line C in Figure 2-2), such as the river ecosystem (Berkes, 2004).

The relationship between human and natural components in a community (Line A1 in the smallest ellipse in Figure 2-2) is complex, reflecting a connection with several components. These include the connection between/among humans: between farmers and agricultural officials; between humans and natural resources (e.g., hunters and deer); and between/among natural resources (e.g., water and trees) (Keeley & Scoones, 1999; Castree, 2001; Robbins, 2001; Zimmerer, 2006). These human/nature components are nested within a community and across other spatial scales of socio-ecological systems.

The local community contains various perspectives and understandings of natural resource problems, significance, or values that are held by different groups of people, such as rural farmers, indigenous people, scientists and official experts (Irwin, 2001; Hibberd, 2005; Reser & Bentrupperbaumer, 2005), based on their beliefs, education, practices and experiences (Hannigan, 1995; Bryant, 1998; Crotty, 1998; Burr, 2003; Moran, 2006), and their identity and cultural base (Shadish, 1993; Burr, 2003; Fischer, 2003; Hibberd, 2005; Karvonen, 2007). As such, Ingold (2000) argues that different understandings of nature and the relationships between humans and nature arise because of different cultural backgrounds of social groups and their varying engagements with nature. Different cultural bases are claimed as influencing different understanding and practice in contemporary management of natural resources (Ingold, 2000; Adams, 2005; Head et al., 2005).

Secondly, with respect to roles of national parks in relation to local community, the implementation of national parks, in general, is established within a large space (Campbell, 2005) that can cover all or part of land used by a community (Roth, 2004b). When national parks are established in landscape and covers community areas, the roles of national park officials in relation to local or indigenous villagers are emerged in several aspects. Certain aspects presented here are state power, environmental identity change, scientific knowledge hegemony, and human/nature value issue. The following paragraphs present these aspects.

With respect to state power, national parks as special spaces that are produced by official conservation processes and policies. They reflect the power relations between local villagers and state authorities. The power of the state, presented in the forms of exclusion, rebuilding, production, and management, provides opportunities to display the meanings of space in several forms. In the work of Sibley (1999; 1995), purification and exclusion project the understanding of construction and maintenance of spaces and their boundaries by formal and informal social institutions and reflect the mechanisms of management of space. In the sense of a power/space relationship, national parks are seen as a specialized space where the state power is exercised by means of the exclusion of villagers from the space. Otherwise, national park officials have authorities to control certain groups of people. For example, people who resist official directions are described in terms of deviance (Campbell, 2005; Robbins, 2006). Another example of state power is the role of boundaries enclosing conservation area. Boundaries are a power strategy by the state to determine safe and unsafe areas. That is, a national park area is safe for non-human beings but areas outside national parks are not safe for non-human. The determination of what is a safe place for natural resources reflects the state power to control the area and consequently it is used as a legitimizing argument to move communities from the area.

In Thailand, national park officials have power to control local villagers and community that located in and surrounding national parks. These villagers are tribes and other ethnic groups who have usually been settled in the forest (Walker, 2004; Wong et al., 2007; Hares, 2008) well before national park declaration. When national park space was established cover and near these communities, the functions of national parks are driven by the National Park Act to control the space and its natural resources. In this sense, villagers who live in such converted space are forced to change their everyday practices or be excluded according to the National Park Act's requirements. In addition, the implementation of national parks can change the position of local community in relation to access to the park resources. In the work of Roth (2004b), two community types are identified by the Thai national park agency. One is the community in national parks, and the other is located in park buffer zones. The boundary of the two community types and national parks is clearly delineated by the authorities of national park officials.

In the aspects of environmental identity change, this can be illustrated in national park implementation. When natural resource conditions change following national park declaration, villagers who dwell in national parks are effectively asked to modify or reform their environmental identities (Robbins, 2004). For example, after a forest area is announced as a national park, the area becomes a symbol of national identity and heritage (Neumann, 1998). However, in general, the environmental identity of people who live in such forest areas is not taken into account or considered as part of this national symbol. Therefore, in order to maintain the national symbol, national park managers have formulated a new modern environmental identity for villagers dwelling in or resettling from national parks, and then force them to change their original identity to their new environmental identity by attempting to change their relationships to park resources.

In Thailand, state power regarding national park implementation can change environmental identity of landscape and of the Karen who have long occupied and been embedded in the landscape before national park establishment. As Buergin (2003) claims after the Thung Yai Naresuan national park was implemented and designated as the natural world heritage, value of the landscape changed to a symbol of national and global conservation. However, the traditional environmental identity of villagers emerged in their everyday and traditional practices regarding the forest area, wild plant and wild animals, wild animal hunting, shifting cultivation, and ritual practice for spiritual aspect (Laungaramsri, 2002) were considered as an undesirable and as destructive destroy of national resource values. In order to protect and maintain the national values, national park authorities play a role to control these identities of villagers. The prohibitions of wild animal hunting and resettlement of villagers from national parks are mechanisms of the state power to change the original environmental identity of villagers in order to maintain the environmental identity of the nation (Johnson & Forsyth, 2002; Roth, 2004b; Sato, 2000; Wong et al.).

With respect to domination of knowledge, certain types of knowledge play a dominant role in developing national park approaches to natural resource conservation. The domination of knowledge in national park management, which is focused on in this section, can be categorized into two aspects: the hegemony of advanced technology in the park

implementation, and western knowledge dominating non-western knowledge and local traditional conservation practices.

In relation to the hegemony of technology, the implementation of national parks in a local community reflects certain aspects of advanced technologies. Scientific technologies are employed to bring about effective exclusion for national park management (Campbell, 2005; Adams & Hutton, 2007). For example, scientific products, such as satellite imaging systems, global positioning systems, and geographic information software, are employed to zone and bound areas for natural resource conservation and human utilization (Zimmerer, 2006).

In relation to western knowledge dominating over non-western knowledge, and expert knowledge over local knowledge, Neumann (1998) claims that the Yellowstone national park model is a form of western heritage that has been distributed to colonies (Suchet, 2001). In the same vein, Siurua (2006) asserts that enforced establishment of national parks in the countries of the southern hemisphere and tropical areas occurred because western people presumed the local inhabitants were unable to protect natural resources. In addition, some areas of scientific knowledge, such as ecology and biology, are regarded as legitimate and officially acceptable (Grenier, 1998). These disciplines are powerful in shaping the direction of thinking on the NRC (Howitt & Suchet-Pearson, 2006), and on determining priorities in conservation activities (Adams & Hutton, 2007). Moreover, scientific conservation approaches have dominated over the non-scientific approaches in the direction of national park establishment and implementation. According to Adams and Hutton (2007) and Robertson (2001), the techniques of national park management have improved by using scientific knowledge to define and shape conservation patterns.

In Thailand, like other countries, the scientific knowledge and advanced technologies have been hegemonic in national park implementation over non-western knowledge and local traditional conservation practices. Western knowledge for national park implementation has been employed since the 1960s (Hirsch, 1990; MacKinnon, 1997; Wittayapak & Dearden, 1999). Mapping technology has been used to classify the land for conservation.

Vandergeest (1996) claims that this technology has been accepted by official administrators because it can make clear the demarcation between national parks and private lands, and clear national park boundaries. In addition, biological information on wildlife is used in the decision making to establish national parks (TISTR, 1994), and choose alternatives of park management (Grassman, 1999; Schwartzan et al., 2000; Ngoprasert et al. 2007). On the other hand, non-scientific knowledge is rarely officially used in national park implementation (Walker, 2004; Wong et al., 2007; Hares, 2008).

From a scientific perspective, other values and facts on conservation that are products of other knowledge systems are difficult to integrate into decision making by national park managers. In the work of Robbins (2000) concerning conservation decision making, official experts have more authority and opportunity than villagers to use scientific knowledge to define the causes of deforestation. Currently, many national parks are designated and managed under scientific principles, foundation, disregarding the cultural knowledge of local people who live in and near these national parks (Campbell, 2005; Howitt & Suchet-Pearson, 2006; Siurua, 2006). In this sense, non-scientific conservation concepts that have been constructed by indigenous people are marginalized.

One reason why scientific conservation concepts and practices are more widely acceptable in the management of national parks and other protected areas can be explained in terms of the hierarchy of knowledge. The scientific conservation knowledge is dominant over unscientific knowledge (Thomas & Twyman, 2004), because scientific conservation knowledge is accepted as being based on a highly developed understanding of natural resources (Adams & Hutton, 2007) and, as such, it is highly regarded by conservation experts and managers. Cobern and Loving (2001), Sibley (1995), and Nygren (1999) point out that scientific knowledge is positioned at the apex of the hierarchy of knowledge, whereas other knowledge, such as indigenous knowledge, is downgraded. The different strata of knowledge in the hierarchical system reflect the power of separation, classification or exclusion of natural things. The classification of natural things by scientific knowledge is considered as more acceptable, logical and accurate (Sibley, 1995; Nygren, 1999). On the other hand, knowledge of unscientific people is considered less useful (Cobern & Loving,

2001), marginal, not officially acceptable (Sibley, 1995), and ‘non-knowledge’ (Nygren, 1999, p271). Thus, it sits at the bottom of the hierarchy. In this sense, the classification of natural things using unscientific knowledge types is generally not accepted by scientific experts (Sibley, 1995).

With respect to human/nature value issue, national park implementation reflects the justification of local humans as being of less value than natural things. Historically orthodox park management has been more concerned about natural resource integrity by emphasizing the need for the survival of nature in the conservation areas, with less attention being paid to human values (Johns, 1997; Wiggins et al., 2004; Adams & Hutton, 2007). Siurua (2006) claims that such conservation reflects a position that considers local human values as lesser than animal values, because the value of endangered animals is considered more important than that of starving humans. In Africa, for example, many local poachers have been killed in national parks in order to protect resource values (Neumann, 2004).

In Thailand, some groups of indigenous and local people, such as peasants, hunters and pastoralists who operate in national parks are labeled by scientific conservationists and national park officials as poachers and squatters (Buergin, 2003; Sato, 2000) and ‘forest eater’ (Sato, 2000 p.163), and their traditional agro-forestry is judged by national park officials as a major cause of deforestation (Walker, 2004) and harmful to hydrological stability of the area (Buergin, 2003; Hares, 2008). These views have been significantly challenged by studies of shifting cultivation (Walker, 2004; Hares, 2008). This expert perspective on villager’s activities has a strong influence on conservation policies and practices.

Thirdly, in the aspect of the response of local villagers to national parks, the reviewed literature on the response of the local and indigenous villagers to national park implementation indicates that local villagers who live in the vicinities of national parks and other protected areas respond in particular ways to national park management. The literature reveals the responses of villagers in relation to park officials. This includes resistance, protest, rejection, and competition. Resistance appears in the practice of minority human groups in relation to the

power of dominant social groups (Sibley, 1995). In the domain of natural resource conservation, everyday resistance is a reaction of local villagers to national park implementation (Neumann, 1998; Roth, 2004b; Holmes, 2007). These villagers still insist and reassert the value of their identity. They demonstrate their environmental identity by pointing out their relationship with natural resources, and their perspectives on natural resources (Hinds & Sparks, 2008). Therefore, the resistance concept can explain much of the tension between national park officials and local villagers (Roth, 2004b; Holmes, 2007).

Holmes (2007) presents the characteristics of villager's resistance to conservation in two forms; implicit and explicit protest. These forms relate to illegal use or destruction of natural resources. Local villagers illegally cut trees or kill wild animals in national parks for use or destruction reflecting implicit or explicit resistance (Jacoby, 2001; Holmes, 2007). However, Holmes argues that these resistance patterns are not stable; they change over time according to geographical landscapes. The resistance to national park management has appeared in many parts of Australia, Asia, Northern America and Africa.

It is notable that the patterns of villager's resistance to state power are reinterpreted by national park officials or conservationists. They describe these villagers as unwanted social groups by labeling them as 'dishonest' 'lazy' and 'thriving' (Holmes, 2007 p191). They use these labels to argue for strict control in national park management. In Thailand, many social geographers and political ecologists have explored the response of indigenous and local people living in and near national parks to national park officials. Much research (see Wittayapak, 1996; Roth, 2004b; Hares, 2008) reveals that these groups of people do not totally accept national park management. Rather some groups contest and resist national parks and its management in many respects (see Buergin, 2003; Sato, 2000).

To sum up, this section reviewed three aspects related to national park implementation. They consist of certain components of local community, role of national parks in the relation to local community, and the response of local villagers to national park implementation. The implementation of national parks is criticized for their impact on the

local villagers' cultures. The following section will present criticism of the national park ideal.

2.2.4 Criticism of national parks operated at the local level

This section reviews criticism of the national park model and the orthodox conservation concept. National park management in the local landscape is criticized as a serious problem, particularly the conflict between national park officials and villagers who live in and adjacent to national parks (Cresswell, 1996; Anderson, 1999; Castree, 2004). This criticism has been widely made by many human rights experts, geographers, anthropologists, political ecologists and others (Clapp, 2004). The criticism of conflict encompasses human values and social problems (Neumann, 1998; Johnson & Forsyth, 2002; Siurua, 2006).

In general, the conflict between villagers and national park officials in the context of natural resource conservation and utilization has many causes (Sato, 2000; Brockington, 2004; Adams & Hutton, 2007). They include resettlement from national parks, strict control of access to the park resources, and extension of national parks over public land used by local villagers. According to Adams (2005), the involuntary resettlement and exclusion of people from conservation areas in Africa is socially unfair because there is no compensation for resettlement (Sanginga et al., 2007).

In Thailand, as elsewhere, the conflict appears as a result of national park management limiting villager access to the essential resources necessary for their livelihood (Hares, 2008). In addition, it results from the extension of national parks into buffer zones where villagers live (Sato, 2000). Hares (2008) and Onprom (2003) categorise local conflict in the context of natural resource conservation and utilization in the Thai forest protection into three main categories: conflict between people within communities, conflict between people in the community and other communities, and conflict between villagers and national park or official conservation projects. However, they do not list any category for

the conflict between outside actors in the community natural resource management, such as the conflict between national park officials and NGOs.

The conflict of national park implementation is continuously existed when national park practitioners and villagers seek to resource values in different interests (Dearden, et al., 1991). In addition, local conflict in national parks is linked to the influence of international conservation institutions. These institutions support the creation of national parks and donate funding and scientific technology for protecting the park resources. In order to respond to the goals of the international donor conservation institutions, national park officials more strictly control access of local villagers to natural resources in national parks (Sato, 2000).

All in all, the literature on the exclusionary conservation concept and the Yellowstone National Park model reveals the complex relationships between global, national and local conservation levels. In Thailand the flow of the orthodox national park model to the local level impacts on the relationships between villagers and natural resources in their everyday and traditional practices in the landscapes. This is because such conservation policies and national park implementation do not allow villagers to use natural resources in national parks. Park officials have specific ways, scientific knowledge and technology, and state power to exclude human activities from natural resources. They are often heedless of local cultures. However, villagers have ways to struggle against these impacts in forms of resistance, competition and protests.

2.3 A New Approach to Conservation

A new concept of conservation is based on the paradigm that conservation and development of natural resources cannot be separately managed; they have to be simultaneously managed. This is because human beings are accepted as a component in ecosystems (Jeanrenaud, 2002; Berkes, 2004b; Waitt et al., 2009) and the diversity of human groups and their knowledge are acknowledged as valuable in natural resource conservation. This approach has emerged in response to disagreement about the exclusion of humans from ecological systems. This new concept is advocated by many human rights

experts, political ecologists and others as a better alternative for natural resource conservation (Neumann, 1998; Campbell, 2005; Adams & Hutton, 2007; Hares, 2008). It recognizes the importance of simultaneous conservation and utilization of natural resources (Campbell, 2005; Adams & Hutton, 2007). Currently, many environmentalists broadly perceive this concept as a new order for natural resource conservation (Worboys et al., 2001; Jeanrenaud, 2002; Newburn et al., 2005; Adams & Hutton, 2007).

2.3.1 Role of the new conservation concept at the global and national levels

Global natural resource conservation and management has been reconnected under the philosophy of ‘sustainable development’ (Adams, 2005). The arguments of this new conservation concept are for a win-win situation of human utilization and natural resource protection in the same place (Campbell, 2005) that simultaneously balances human needs and resource integrity, that is aligned to the goal of sustainable conservation (Adams, 2005), and that opens the opportunities for a diversity of people to participate in natural resource conservation (Mauro & Hardison, 2000; Eaton, 2005; UNEP, 2007b). This concept has been influential in natural resource management at the global and national scales since the late twentieth century (Jeanrenaud, 2002).

The United Nations Environmental Program (UNEP) has been the cornerstone of the new conservation concept. Its main role is to develop and distribute the new concept and its approaches and strategies to the international, national and local practical levels. In 1992, the UNEP presented the Agenda 21: Program of Action for Sustainable Development at the conference on environment and development (UNCED), in Rio de Janeiro, Brazil. The inclusion of humans as a part of ecosystems has become the basis for global NRM/C.

In Thailand, the Thai government approved approaches and policies for natural resource conservation and management that followed the new global conservation philosophy. Thailand, as a UN member, had signed the Agenda 21 agreement. Acceptance of Agenda 21 compelled Thailand to reformulate its approach to environmental management (OEPP,

1997), with the theoretical cornerstone of ‘sustainable development’ having much influence. This led to adjustment in the relevant Acts and organizations.

The Thai government amended its environmental law and formulated the Enhancement and Conservation of National Environmental Quality Act of 1992. The National Environmental Board and environmental agencies were restructured to facilitate sustainability and public participation in natural resource management (DEQP, 1996). In addition, the Thai Constitution was updated in 1997 to recognize a role for traditional communities in natural resource conservation and utilization (Johnson & Forsyth, 2002; Klein, 2003). These changed institutions and regulations have facilitated the new conservation concept playing a role in the natural resource conservation system.

2.3.2 Role of the new conservation concept and local communities

Rural activities take place in close contact with nature, adding value to it by producing renewable resources, while at the same time becoming vulnerable to overexploitation and improper management (From; The Agenda 21, chapter 29, UNEP, 2007)

After the orientation of global natural resource management was reconstructed with the notion of ‘sustainable development’, as widely proclaimed at the 1992 UNCED (Jeanrenaud, 2002), local villagers such as indigenous people, rural people, farmers and fisher folk, and their cultural practices were viewed by global experts as influential factors in both conservation and exploitation of local natural resources (King, 2007). Agenda 21 recognized these countryside people, as well as their ways of knowing about local natural resources, as being significant to achieving sustainable global natural resource management (Mauro & Hardison, 2000; Eaton, 2005; UNEP, 2007b). Ten of the forty chapters of Agenda 21 referred to the importance of these local villagers and their cultural practices, both positively and negatively, to the conservation of natural resources that surround them (UNEP, 2007a). For example, section 26 of Agenda 21 referred to the knowledge and practice of indigenous people regarding natural resources, and section 29 mentioned farmers and their lands. Moreover, non-scientific villagers have been highlighted in other international agendas, for example, the International Convention to Combat Desertification of 1994, the Intergovernmental Forum on Forests of 1996 (Mauro & Hardison, 2000), the

Convention on Biological Diversity of 1993, and the fifth World Parks Congress of 2000 (Brosius, 2004).

The new conservation concept, under the umbrella of the sustainable development, has been introduced to local communities. It appears in many forms, such as community oriented conservation (Siurua, 2006), community conservation, and community-based natural resource management (Campbell, 2005). In addition, it has been linked to orthodox conservation management as seen in its deployment at the fifth World Parks Congress of 2000 (Brosius, 2004). The attempt of the congress was to introduce this new concept as a new paradigm of conservation where sustainable use of biological resources and the sharing of the benefits arise from the use of biodiversity in and around the protected areas. Currently these approaches have been introduced in many communities in the buffer zones of national parks (Hares, 2008). In addition, the new conservation concept has led to a changing pattern of the national park management in certain countries (Worboys et al., 2001; Adams & Hutton, 2007). However, the national park management in Thailand still holds to the Yellowstone model. In practice, national park officials still work in a frame of the orthodox park management under Thai National Park Act that not allows any human activity inside national parks. National park officials still exclude indigenous people from the use of the park resources. They argued that if the people have the rights in the park land, the park area and the biodiversity values will disappear (Dearden, et al., 1991). Therefore, the notions of biodiversity, sustainability and participation that support right-base of indigenous people in the park resources are ignored according to national park regulations.

2.3.3 Critics and Advocates of the new conservation concept

The new conservation concept, under the umbrella of sustainable development, has been criticized by some ecologists and national park managers. According to Terborgh (1999), the new conservation concept is concerned only with the quantity of biodiversity. In his perspective, the conservation of biodiversity must focus on quality. He claims that the bounded national park model is a suitable approach to protecting biodiversity quality. While, as discussed earlier, many link orthodox conservation management with poverty,

human rights and unequal land allocation, many conservation biologists argue that such arguments are not valid because conservation and those social problems are different, and that national parks and other protected areas cannot serve as the structures to solve such problems (Sanderson & Redford, 2003; Adams & Hutton, 2007). In addition, in many countries the new concept of conservation is not accepted by national park agencies because it reverses the positions on national park management that they hold.

In advocating the new conservation concept, many contemporary conservationists and environmental managers call for alternative forms of natural resource conservation that are focused on multiple perceptions of different relevant groups of people in horizontal and vertical scales. They argue for an alternative that can keep the survival of non-human nature in the landscape where it is subjected to human activities (Robbins, 2006; Waitt et al., 2009), recognize indigenous cultures and right (Collins, 2001), and provide for the dimensions of utilization and prohibition in the same space (Rocheleau, 2008). This idea may solve the problems of two different conservation concepts that operate in an area. Locke and Dearden (2005) argue that in order to facilitate two conservation concepts in a harmonious global conservation policy, the IUCN protected area categories should be reclassified into a group of the categories as core protected zones for strict biological protection and a buffer zone group as sustainable development zones for better serving the protection of wild biodiversity and sustainable development practice.

Conservation of buffer zones is viewed as important for biodiversity habitat where humans have activities in the areas (Ebregt & Greve, 2000; Worboys et al., 2001). Buffer zones are the spaces where villagers have been excluded from the core area still use natural resources as they were in national parks (Wong et al., 2007). In addition, they are spaces of wild plants and animals that move from the core area for temporary or permanent living (Ebregt & Greve, 2000). Therefore, buffer zones adjacent to the protected area are important landscape elements to serve as animal and plant habitat, refuge or for travel to other landscapes (Barrett & Bohlen, 1991; Johns, 1997; Worboys et al., 2001). Currently, many countries use buffer and corridor zones to operate the new conservation concept for biodiversity conservation (Barrett & Bohlen, 1991; Ebregt & Greve, 2000; Worboys et al.,

2001; Robbins, 2004), and for supporting sustainable development (Barrett & Bohlen, 1991).

Under the new conservation concept, a participatory approach is a popular mainstream mechanism to encourage peoples to engage in the NRM/C (King, 2007). However, the participatory approach has been somewhat modified and heavily focused on the merging of stakeholders in activities related to resource management projects, rather than a concern and acceptability for sharing understanding about variously useful knowledge, perspectives principles and benefits (Klein, 2003; Hickey, 2002; Johnson & Forsyth, 2002). As a result, the certain participatory forms are criticized as being ineffective participation (Mauro & Hardison, 2000), and unacceptable in official conservation projects (Ryan & Wayupart, 2003). In addition, they seem to be a collaborative process on the surface that act as a mechanism to maintain the power of official authorities or to placate local people to join in the official NRM/C. The participation of national park officials is to enforce people under national park regulations (Barnaud, et al., 2008). In this sense, official participations in natural resource conservations are a means their power performance in order to control activities of people. Community-based management (CBM) approach is a form of participatory approach that is wild employed in the NRM/C. However, Masozeraa, et al. (2006) claims that it is an uncertain approach because it is associated with high level decisions of governmental to control community actions.

Currently, although, non-scientific local people are invited to participate in the process of the NRM/C, many participatory approaches have not yet been adequately integrated with ideas, perspectives and benefits of local villagers (Sinclair & Walker 1999; Campbell & Vainio-Mattila, 2003). Many contemporary conservationists have called for a more appropriate approach of participation in the NRM/C. As Suchet (2002, p.150) argues, process of the NRM/C that 'it (environmental management) is necessary to recognize and respect peoples and their ways of knowing for pre-relationships to be relevant and appropriate', and then the participatory approach in the NRM/C needs to be developed by focusing on more sharing ideas and benefits of all relevant groups of people.

The rights of villagers in managing and conserving natural resources at their living landscape are argued as necessary and significant issues in the participation of the NRM/C (Johnson & Forstyth, 2002). The rights based approach is one of participatory approaches (Hickey, 2002) that introduced to the rights of people gaining benefits from the NRM/C (Johnson & Forstyth, 2002). It facilitates a better way for villagers to share power, benefits, ideas and practices in the NRM/C (Hickey, 2002; Johnson & Forstyth, 2002), and more respects human values (Olsen, 2003). It has various forms. A joint management model is a form of the rights based approaches. This model provides villagers to share their benefits, ideas and power in the implementation of conservation (Smyth, 2001). It has been more acceptably employed in the park managements (Colins, 2001; Adams, 2008).

2.4 Summary

This chapter has provided an overall picture of conservation concepts at three levels: international, national and local. Overall, the literature shows that there are two fundamentally different conservation concepts that generate different politics of intervention in the relationships between humans and nature. One concept focuses on the protection of natural values with exclusion or strict control of human activities in conservation areas. The other concept focuses on sustainable conservation with creation of suitable human activities in the ecosystem. It is a relatively new way of thinking about conservation in the current century. The two different conservation concepts were created and have been promoted by different international agencies and diffused to many countries.

The conservation literature provides a good background on the mechanism and processes shaping the movement of conservation concepts from the global level throughout the national level to local areas, and on the power relations between different social groups in the contexts of natural resource conservation. In the connections of conservation concepts in different levels, the local communities play a role as an important space of forming nature/human relationships (Berkes, 2004). This is a space of close relationships between villagers and natural resources in which villagers use resources for their livelihood and

traditional practices but they are interfered with by outside conservation concepts. Therefore, the literature on the different conservation concepts and their relationships at different levels shapes the scope of this study which is particularly focused on the Thai national conservation policy and local conservation implementation.

Under the framework of these two concepts, there are complex and different political decisions and directions of natural resource conservation (Robertson & Hull, 2001) which leads to incongruities of conservation practices at the local level (Adams & Hutton, 2007). These differences and complexities can be understood through the concept of the political ecology of conservation and the concept of space. The political ecology of conservation can be employed to understand the power, knowledge and political relationships among different social groups in the contexts of the NRM/C (Berkes, 2004; Robbins, 2006), and natural resource conflict and conservation failures under modernity (Robbins & Fraser, 2003), to explore the multi-level connections between global and local environmental formations, decision making and hierarchies of power (Adger et al. 2001). Rocheleau (2008) argues that the new political ecologist should return to looking at 'the ecology in the political ecology' in the conservation area, which provides two dimensional spaces of utilization and prohibition.

Philosophical perspective of the space concept regarding the relationship between humans in a particular place has been of great interest to social scholars (Casey, 1997; Cresswell, 2002; Roth, 2004a). The space concept has been developed in works of humanistic geographers (Escobar, 2001), anthropologists (Ingold, 2000), and political ecologists (Vandergeest, 1996; Escobar, 2001). Their works reveal the function and mechanism in physical and non-physical places. In the work of humanistic geographer David Sibley, space concept was employed to understand the relationship between social groups in different races, social stratum and age in a particular place (Sibley, 1995; Frawley, 1999). Meanwhile, Vandergeest & Peluso (1995) used territorialization as a space concept to explain certain productions of Thai official agencies for managing the landscape. They argue that the demarcation of the forest area as a conservation space is a production of official agencies to conserve forest and other national resources under the state power

(Vandergeest & Peluso, 1995; Vandergeest, 1996). This officially constructed space negatively impacts on the people living in the space (Vandergeest, 1996).

The concept of space is employed to uncover the power relations between local villagers and bureaucratic authorities (Campbell & Vainio-Mattila, 2003). The power of exclusion, rebuilding, production, and management provides opportunities to display the meanings of space in several forms. Some forms of this power are used to control certain groups of people (Sibley, 1995). Certain notions in the space application, such as exclusion, inclusion, purification, boundary, transgression, and resistance are employed to data interpretation. For example in the work of Sibley (1995), purification and exclusion project the understanding of construction and maintenance, of spaces and their boundaries under different powers and perspectives, ways of knowing of different social groups. These notions reflect the mechanism of dominant management of space. For example, resistance and transgression reflect exercises of social groups with spaces, responding to boundaries and sizes that are constructed and controlled by other groups. They reveal incompatibility of between different groups under power relations. In addition, purification and exclusion reflect the feelings of people about their belongings, projecting their claim of the rights of the place, and open sources and role of knowledge under the practice of spatial exclusion and transgression.

Many studies employ concept of space to explain the status of natural resource conservation and reveal the power relationship of different relevant groups of people involved in national park implementation (Vandergeest, 1996; Escobar, 2001; Roth, 2004a). This thesis draws on the work of space studies of Sibley theorist, to examine how space is being opened up for meaningful engagement with power relationship between non-scientific people and scientific experts in NRM/C, particular national park management.

When landscapes are determined and constructed by officially scientific model through the bureaucratic system as national parks. The boundaries of national parks are managed and maintained by national park officials. As commonsense, scientific experts and particularly national park officials define national parks as being meaningful without human settlement.

However, villagers define such landscape as their homes and food sources. In this sense, national parks are viewed as space where principles of conservation shape the space in specific ways and they are challenged by villagers. So a national park is constructed as specific by different groups of people to impart their knowledge, concepts, practices and benefits regarding natural resources. As the national park refer to the arena of the interaction between different human groups who act on natural things within it, the conflict and incompatibility of the meanings of social issues are emerged. These social issues can be explained with a space concept.

By using these concepts mutually, many phenomena, such as the power relations between different social groups in the contexts of natural resource conservation (Escobar, 2001; Berkes, 2004; Robbins, 2006), natural resource conflicts (Robbins, 2003), and the influence of global conservation in decision making for local practice (Adger et al., 2001) can be examined. In addition, these concepts can be used to answer questions about how norms of natural resource conservation are produced by several groups of people and are translated into the NRM/C policies and, subsequently, how these natural resource conservation policies may impose unnecessary restrictions on natural resource conservation practices of local villagers.

The human/nature relationships and political conservation at the national and local levels need more sophisticated inquiry. To understand the complexity of political conservations and the human/nature relationship, investigations by using data collected from people with different perspectives in different agencies at the central and local levels are needed. The next chapter provides the design for data collection and analysis on the status of the NRM/C policy and national park management in Thailand.

Chapter 3

Methodology

3.1 Introduction

This chapter presents the method and approaches used in the study. The qualitative research method, which guides the data collection, is described in section 3.2. Interview sampling is described in section 3.3. The principles of data collection are described in section 3.4. Section 3.4 consists of subsections including the study-area selection in section 3.4.1, the selection of interviewees in section 3.4.2, and the implementation of data collection in section 3.4.3. The approaches used for analyzing and interpreting data are described in section 3.5. The trustworthiness and validity of the study are described in section 3.6.

3.2 Qualitative Method

The qualitative method that is employed in the study is a linkage between theoretical perspectives and approaches to data inquiry. It is a useful mechanism to describe, interpret and learn about people and their way of life (see Tesch, 1990), to provide an appropriate method of inquiry into what people talk, think, and do about something, to investigate properly how people come to understand their situation (Bouma, 2000), and to understand the meanings generated by certain groups of people. In addition, qualitative methods are commonly employed for developing deeper understanding of the points of view of different people (Sarantakos, 1993), and for describing in detail what is happening in a group, community, or society, and to accommodate multiple perspectives and allow gathering of rich information from people (De Vaus, 2002).

Since this study aims to examine the existing understandings, perspectives, and opinions of villagers and scientific experts in a domain of natural resource conservation (NRC), the nature of this study demanded that the researcher consider using a qualitative methodology, rather than a more quantitative approach. This kind of research method is considered a

more suitable way for exploring people's talk about their stories rather than collecting numerical data. The qualitative method is suitable for understanding and interpreting how the various participants construct realities of the world around them (Glesne, 2006), and is appropriate to address resource management questions (Sayre, 2004). For the above reasons it is argued that the qualitative method is appropriate for studying the perspectives, attitudes, and opinions of people about natural resource matters.

In addition, the qualitative method is an appropriate guide for data collecting from interviews and observations from which details of the participants' viewpoints may be taken from their words and images (Daly, 1992). This methodology allows further development of a tool for inquiry into a deep understanding of the perspectives of different groups of people. In summary, the qualitative method is useful for this study because it is suitable to investigate understandings and perspectives on natural resource conservation.

3.3 Design of Interview Sampling

According to Bradshaw and Stratford (2000), in qualitative research the number of samples is of less concern than the qualitative properties of the participants. Therefore, in the research design, the process of selecting interviewees must be rigorous for qualitative researchers (Bradshaw & Stratford, 2000), so they are able to access those informants who are rich in information and who possess different knowledge backgrounds (Babbie, 1998). In this study the interviewees were selected to differ as much as possible in their knowledge-base. As Maykut and Morrehouse (1994) have found, a range of interviewees from different individual backgrounds of knowledge and experience will increase the richness of environmental knowledge, perspectives, opinions, and meanings. To obtain different understandings and perspectives related to natural resources, criteria for selecting appropriate interviewees and sources for finding them were designed. This design is described in detail below.

The interviewees were sampled so that their selection was typical (Lohen & Manion, 1985; Patton, 1990), of the three groups of interviewees used. The interviewees were villagers

who have been living and adapting themselves according to natural resources and who believe in the close relationship between themselves and the supernatural in the natural resource arena (Chitakasem & Turton, 1991). Other groups were 'local scientific expert/s' or 'local expert/s'; in this thesis refer to interviewees who have responsibilities and activities related to natural resource conservation in the study area, and 'central scientific expert/s' or central expert' ; in this thesis refer to interviewees who related to the natural resource conservation policies and practices.

The criteria for selecting interviewees were based on the expectation that the chosen interviewees could provide variety and richness of perspectives, opinions, meanings, knowledge, and ways of knowing natural resources. The criteria established reveals the differences in the groups according to whether they are villagers, local experts or central experts.

Villagers were chosen to be the interviewees because they would be rich sources of local knowledge and experience related to natural resources. This is reflected in the following criteria for the interviewees. Firstly, they have long experience in the study area; villagers who have been continuously living in the area for more than ten years were considered appropriate. Secondly, they have influence in holding or transferring local knowledge and practices. Thirdly, they were from different occupations related to natural resource uses, such as gardening, fishing and farming. Under these criteria, therefore, villagers such as village chiefs, local scholars, elders, ritual leaders, informal leaders, and agricultural producers were selected as interviewees.

Local scientific experts were selected on the assumption that various perspectives, opinions, experiences and knowledge backgrounds would produce more useful data for the study. Therefore, local scientific expert interviewees were representatives of different agencies and had different occupations, responsibilities, and activities related to natural resource conservations in the study area. Those who were considered had long experience dealing with local natural resource conservation in the study area and included government agencies, local experts, and NGO officers.

Like the local scientific experts, the interviewees at the central level were chosen from several central agencies related to natural resource conservation at the national level. Since the aim of the study is to support local natural resource conservation, data at local level might have been considered enough for the purpose of the study. However, natural resource conservation at the local level is not just an activity of the resident insiders and local outsiders because official agencies strongly influence their operation and procedures (Vandergeest, 1996; Neumann, 1998; Wong et al., 2007). For this reason, data collection in this study needed to include a group of informants who work at central agencies.

Just as for local scientific experts, so central interviewees were considered from the diversity of perspectives, opinions, knowledge and ways of knowing, and were selected from several occupations that relate to natural resource conservation at the national level such as policy makers, environmental experts, conservation researchers, and conservation NGO officers. The various interviewees from different backgrounds and responsibilities would provide valuable data.

The fieldwork for this research was carried out in two sections. The first fieldwork was the main part of the data collection and concentrated on key informants that were selected from representatives of villagers and relevant agencies. The key informants consist of ten villagers, five local experts and eleven central experts. Further information of these interviewee presents in Chapter 5 and 6. The time of data collection in the first fieldwork is 2 months for collecting data from villagers, 2 weeks for collecting data from local experts and 3 weeks for collecting data from central experts.

The second fieldwork was carried out after the first collected data was analysed, or 1.8 year after the first fieldwork. The purpose of data collection in the second fieldwork was to confirm, recheck and explore the results from the first data collection. The twenty informants from villagers were selected from ten villagers who were interviewed in the first fieldwork and ten extra villagers. The ten local experts were selected from five of those interviewed in the first field trip and five extra local experts. The time of data collection in

the second fieldwork is 1.5 month for collecting data from the Karang interviewees and 3 weeks for collecting data from local experts.

3.4 Principles of Data Collection

This section presents the principles of data collection. Following the qualitative methodology as discussed in section 3.2, it comprises study-area selection and data collection.

3.4.1 Selection of villages in the western sub-region of Thailand

The careful selection of the study area was important so as to gain the rich data required for this study. Following development of criteria for selecting a local village, certain parts of Thailand were examined to determine their suitability. The detail of the study area selection is provided in the following subsections.

The selection of cases used should provide the most useful insights from the research (Bradshaw & Stratford, 2000). The selection of criteria for the area of study as explained below can usefully serve as a guide in the selection process. The first criterion was that the study area must be located in the countryside where local ways of knowing natural resources are still rich and important, and where villagers learn to make their living and derive sustenance from direct use of various natural resources.

A second criterion is that the study area should be located in or near an official natural resource conservation area. This criterion helps to gain rich data relating to natural resource conservation from villagers and official experts. The data is useful to support the thesis aim to address the suitable form of local natural resource conservation.

A third criterion is that villagers in the study area should be willing to provide data without any problems and barriers during fieldwork, otherwise data collection will fail. A fourth criterion is that the study area should have projects or activities implemented by official

agencies. A reason for this is to ensure expert conservation approaches have been introduced into the study area. The last criterion is the personal safety of the researcher. This criterion would apply to most other field research projects. Some parts of Thailand are not safe due to insurgencies or epidemic diseases.

There are certain reasons for selecting the study area in the Western sub-region of Thailand. Thailand is officially divided into four regions: the northern region, northeast region, southern region, and central region. Each region is subdivided into sub-regions. For example, the central region is subdivided into the eastern sub-region, Western sub-region and middle sub-region.

Since the study area should include a countryside community where residents dwell near the water and the official natural resource conservation area simultaneously, this dual requirement was a first priority because in Thailand there is a limited number of countryside communities who dwell near the water and are adjacent to official natural resource conservation areas. To identify communities and their location, data from research institutions and educational institutions were assessed.

From the selecting criteria, the area in Figure 3-1, the southern half of the western sub-region of the central region of Thailand was considered suitable for selecting study sites. At the time of the study, indigenous groups called the Karang and Karen still lived in this region. Almost all these groups lived alongside the streams in and at the edge of the national park (TISTR, 1994). They had retained their indigenous everyday practices and rituals (Sangkadul, 1962; TISTR, 1994). This made the western sub-region a place of interest.

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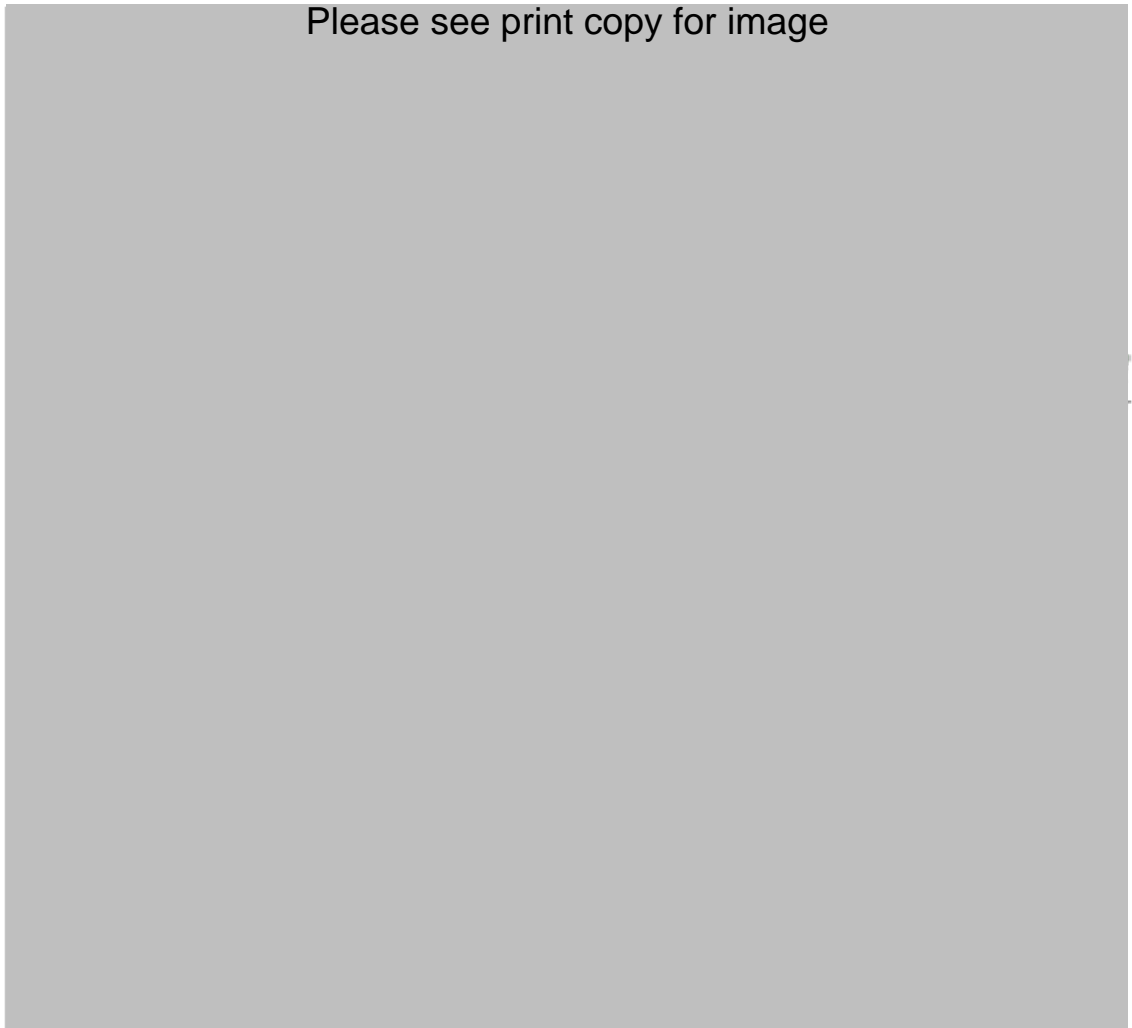


Figure 3-1 The location of a study area in the southern half of the western sub-region of Thailand
Source: NPD (2008)

3.4.2 Approaches to data collection

Interview and observation were employed to collect qualitative data in this study. These two approaches and their methodologies are explained below.

Firstly, the interview approach is a way of looking at what people feel and think about their worlds (Rubin & Rubin, 1995), and a way to find out how people act in different situations (Glesne, 2006). In addition, it allows discovery about events and opinions from the actual words of interviewees (Dunn, 2000). Interviews are:

particularly suited for studying people's understanding of the meaning in their lived world, describing their experiences and self understanding, and clarifying and elaborating their own perspective on their lived world (Kvale, 1996 p105)

The interview approach is compatible with the purpose of this study. It can be used to gather information about people's experience (Dunn, 2000), and is suitable for gathering data about perspectives, opinions and attitudes from what villagers and scientific experts say about the issues related to particular natural resources. Many forms of interview approach are used in social research. They include face-to-face interview; non face-to-face interview (telephone or email interview); structured interview; semi-constructed interview; and unstructured interview (Dunn, 2000).

A structured interview uses pre-set questions as a way of directing question-answer activity. However, it relies on clear interviewing questions by pre-testing the questions before use. In addition, it is not flexible and is incompatible with exploration of what people say within their real worlds (Patton, 1990).

A semi-structured interview has certain pre-required questions (Dunn, 2000). It allows the interviewer to play a role to manage and direct the context and nature of the interview for research purposes. The semi-structured interviewing approach is often the most appropriate approach for gathering qualitative data because it is a tool of data collection that does not fix the wording of the questions but does provide consistency of questions (Minichiello & al, 1995; Potter, 1996).

An unstructured interview approach is very effective for particular groups, including indigenous people, because it allows interviewees to freely present their own ideas and perspectives, and it contains the potential for dialogic communication between interviewer and interviewee (Seidman, 1991; Maykut & Morehouse, 1994). Thus Potter (1996) argues, semi structured and unstructured interviewee methods are suitable for the work of discourse analysis that is focused on the interpretation of interviews, actions, beliefs, motivations, social interactions and observations, and the interactions between these.

Secondly, observation is a basic qualitative research technique that is designed for collecting qualitative data (Glesne, 2006). It provides researchers with an opportunity to obtain qualitative data that cannot be directly collected from interviews. The data gained from observation is about the physical environment in the study area, ways of villager living, and the performances of interviewees. The data is useful to more completely supplement the data from the interview and is significant for discourse analysis (Gee, 2005). Several types of observation are employed in qualitative research.

Non-participant observation is undertaken by a researcher who does not take part in the action with the informants. Participant observation is completed by a researcher who takes part in the activities of interviewees. Naturalistic observation is directly observing interviewees' actions as they make sense of events in everyday life. Unstructured observation is a direct observation of the interviewees' actions.

In this study, unstructured observation is applied and is undertaken during the interviews. It is not a main method for data collection. Instead, the unstructured observation complements the interview method. It helps to clarify certain issues concerning the relationship between interviewees and natural resources that cannot be gathered by the interview approach alone. This is because some interviewees cannot clearly explain issues, or sometimes they use items or places to show what they talked about. In addition, an observation approach helps to confirm the reliability and validity of data from the interview because observational data can support the data from interviews; it serves as a back up record of the interview (Rubin & Rubin, 1995).

3.4.3 Implementation of data collection

In the first fieldwork, the implementation of data collection begins with a selection procedure to identify the study area, the selection of interviewees in the chosen area, and interviewing of those interviewees. After that the procedure for data analysis is presented.

Firstly, the selection of a study area and interviewees was undertaken after making the decision to collect data in the Southern half of the sub-region of the central region of Thailand. Information about countryside communities was sought from relevant documents and officials who work in the district (in the sub-region). Briefly, four rivers were identified where communities dwelt on riverbanks and in or near official conservation areas; they were the Pachee, Plan, Pet, and Meaklong Rivers. However, during the selection of the study area there was conflict between Karen groups of KNU (Karen Nation Union) and DKB (Democratic Karen Buddhist) at the border between Thailand and Myanmar. In addition, research had already been conducted at countryside communities in the Meaklong River (Pooteamnin, 2003). The three remaining rivers were considered for the study area. The details of the selection procedure are summarized in Appendix 1.

After data from the selection procedure was analyzed and compared to the criteria, a village that was finally chosen as the study area was an indigenous community named Pa Rar Ouu. It is located on an upper stream of the Pran River skirting the Keang Krajan National Park, Moo 3 (Village 3) of Tambon (sub-district) Hoysatyai, Amphur (district) Hou Hin, Prachuabkririkhan province.

After the study area was selected, a few weeks was spent in the study area selecting the interviewees using the criteria discussed in section 3.3. Firstly, I introduced myself to village leaders and to the Karang villagers in the village monthly meeting and then information about the villagers was obtained from the village chief. The villager's names and addresses were listed. After that a preliminary scoping survey of the village area and households was conducted. The identified house owners and target groups of villagers were visited. Data from the scoping survey, visiting target groups, and consultations with a village chief were used to select interviewees under the criteria.

Secondly, qualitative data collection procedures as described in the introduction were undertaken. Interview and direct observation were the instruments for collecting qualitative data. In this sub-section, the three approaches of data collection were introduced: semi-structured interviews, informal conversational interviews, and unstructured observation. An

unstructured interview (an informal conversational interview) was employed to gather data from villagers, and a semi-structured interview was employed to gather data from outside experts. Unstructured observation was employed to supplement the data from the interview as mention in section 3.4.2

The semi-structured interviewing approach is commonly used in qualitative research (Patton, 1990) because it can be used as a tool that retains flexibility and an ability to respond to interviewees. In this study, the semi-structured approach was suitable for interviews with expert interviewees because their background and education meant that it was likely to be an effective approach. In addition, these interviewees did not have time or did not make time for informal conversational interviews over several sessions; their interviews were conducted in their offices at definite appointment times.

The different cultures between interviewers and indigenous interviewees may cause direct questioning to fail (Walsh, 1997). Similarly, a semi-structured approach was not likely to be effective in research with the Karang. This is because Karang interviewees did not specifically answer questions following the topic list, even the open ones to which they could have provided any answers they wanted. In addition, they avoided answering questions directly, particularly those about their use of natural resources in the national park. For some questions, they just answered with a word, 'yes' or 'no'. They avoided giving opinions and more detailed information. In fact, they were unwilling to give answers to questions from an outsider. A teacher, who is an outsider and who had been working for long time in this study area, provided advice about the general manner of the Karang. If they were unfamiliar with a new outside visitor, they did not talk much or avoided talking completely. Another reason that they were cautious was because they took advantage of the natural resources in the national park, such as cutting trees, hunting wild animals and squatting on the national park. They were self-conscious about providing data about these activities, as they suspected outsiders as spies who wanted to investigate their activities in the national park. This problem can be understood when it is related to aspects of the different cultures belonging to the interviewer and the interviewee.

The trust between the Karang and the researcher (myself) showed positive signs of development during the interview stage. The trust helped to reduce any possible problems in interview procedure that required the Karang to be open about their perspectives and opinions. According to Kitchin and Tate (2000), the researcher has to initially present him/herself as an agent of confidentiality and to guarantee anonymity in order to facilitate trust and gain openness from the participant.

Similar ideas concerning the relationship between an interviewer and interviewees are expressed by Dunn (2000) who argues that trust is an important mechanism for success during interviewing. After a few weeks of developing trust with the Karang in the study area it was noted that the Karang favoured conversation in an informal style. They liked to talk about general matters and narrated their culture and their everyday living. They avoided answering direct questions, particularly about wild animals, or wild plants in the national park. Data from observation and from the teacher who was an outside expert, along with my long experience working in rural communities, made it evident that to elicit rich and authentic data from these interviewees required an informal conversational interview approach.

As a result, the interview approach was adjusted from a semi-constructed interview to an informal conversational interview. This informal conversational interview is similar to unstructured interviewing (Patton, 2002). The term ‘informal conversational interview’ has been adopted for this study. It has been defined by Patton (2002) as;

informal conversational interview no predetermined questions are asked, in order to remain as open and adaptable as possible to the interviewee's nature and priorities; during the interview, the interviewer 'goes with the flow' [Patton 2002 p342]

The informal conversational interview provides the freedom during the interview to explore issues raised by the interviewees that were not previously considered by the interviewer. This provides opportunities to make interviewees more confident to use their language to construct what they know and practice, and to think about the relevant issues regarding natural resources in the area where they are living. The informal conversational interview is a model of talking with the interviewee, in which the interviewer becomes more of a listener. The interview is a dialogue that develops from the interests and perceptions of both

the interviewee and interviewer. As any opportunity arises, the interviewer can encourage the interviewee to turn the conversation to the main point but the interviewer also needs to be attentive to the direction taken by the interviewee and to be open to new ways to understand the topics being discussed.

All informal conversational interviews with the Karang took place at their dwellings on the land where they live. All scientific expert interviews took place at their places of work by using the semi-constructed interview format. The interviews were tape recorded. Before an interview started, I introduced myself, explained the purpose of the study, and asked for their cooperation in data collection. Each interviewee was provided with an informed consent form. Permission to record on audio tape, to take photographs, and to scribe notes was sought. The interviewee was provided the opportunity to ask questions in case they had any concerns.

During the interview, a conversational style was adopted and the interview was conducted on an informal and relaxed basis. In trying to better understand the complex ways that the Karang feel about and interact with natural resources the initial interview did not require them to talk directly about wildlife, land, water and forest with which they seemed to be so closely involved. This was because I did not want the Karang to think that I was a 'researcher' or 'official expert' like the many others in the area. I wanted them to feel free and comfortable talking to me.

To establish rapport the initial interview was opened with general matters (see Dunn, 2000), such as weather conditions, their traditions, their relatives, crop production, livestock products, and food. These matters related to the general topics relevant to traditional natural resource use and conservation by villagers in Thailand. This was done in order to avoid playing a dominant role over interviewees (Agar, 2005). After all the interviewees were comfortable in discussion the conversation was then indirectly turned to the domain of soil, water, land, forest, mountains, wild plants, wild animals, and to the different groups of people and agencies who are involved in the use and conservation of such natural resources in the area.

For the Karang, the informal conversational interview was more facilitative and effective than the formal interview approach in obtaining the interviewee's perspectives, opinions and knowledge using their own words. In this way, Karang interviewees could talk on a wide range of matters that are directly and indirectly relevant to natural resources, and that they wanted to discuss. The interview contexts were managed by encouraging interviewees to talk about natural resource matters in which they were involved and to speak as freely as possible on the matters related to natural resources. They were encouraged to elaborate on the issues they raised, instead of focusing on objective answers. The Karang interviews yielded data which is suitable for discourse analysis.

It became evident that in an informal conversational interview, the interviewer can find it difficult to cover all the issues regarding natural resources in a single sitting. Patton (2002) argues that the interviews need to take time to allow trust to develop and for issues to emerge. Therefore, interviewees were interviewed two or three times. On each occasion the interview material was reviewed and drawn up for the following interview. In this way issues and topics could be identified and followed up in more detail in subsequent interviews.

Data from informal conversational interviews were recorded and stored using a mini disc recorder. It is suitable because some interviewees were very aware and self-conscious about talking with a microphone. Potter (1996) suggests that recording technology should have minimal impact on interviewee interaction, and that it should facilitate the process of transcription effectively. For gaining good quality of recording data, a mini-disc recording without external microphone was used for the data collection. This was suitable and compatible with the interview approach and it contributed to a relaxed atmosphere during the interviews. In addition, it had the advantage of providing good sound quality and recorded continuously for more than five hours.

To ensure that the data was in a safe location, after completion of an interview it was saved to a personal computer and copied to CDs. After the final interview, the digital data and transcribed data was saved into folders on a university computer with password protection

and the CDs were locked in a cabinet in my work office. They were able to be accessed whenever they were needed.

Unstructured observation was another approach used during the interview. Observation was of what they were explaining by noticing their feelings, body language, and surrounding things that they referred to. This observation could confirm and clarify meanings because sometimes interviewees, particularly the villagers, were not able to easily explain to me what they meant about certain issues. Data from observation often made what they meant clearer to me.

The observation data was written or drawn up in a notebook as soon as the interview period had finished. I added my opinions, feelings, and personal meanings gained from the observations. Noting the observation data during the interview was avoided so as to not disturb the atmosphere generated by the interviewee's talk, for example by turning the interviewee's interest to what was being written. The intention was for the interview procedure to be naturally continuous and without disturbance from writing activities.

In the second fieldwork, the data collection was undertaken in the study area after the first collected data were analysed: 1.8 year after the first fieldwork. As the first data collection, the approaches of informal conversation interview and unstructured observation were employed for data collection with the Karang interviewees, and of semi-structured interview and unstructured observation were employed with local expert interviewees.

3.5 Principles of Data Analysis

This section presents the implementation of qualitative data analysis based on the discourse analysis approach. The first subsection in section 3.5.1 discusses the concept of discourse analysis. The second subsection in section 3.5.2 covers data analysis using principles of the discourse analysis approach.

3.5.1 Discourse analysis

The previous section presented the qualitative method as a guide to study orientation, particularly the principles of data collection and analysis. This section introduces discourse analysis and discusses its appropriateness for, and compatibility with, qualitative methods and qualitative interview data. A definition of discourse analysis is difficult (Burr, 2003) due to the broad nature of its usage (van Dijk, 1998; Burr, 2003). According to Whittaker and Mercer (2004) its definition relates to knowledge and a particular way of understanding and assigning meaning to words and language.

Historically, discourse analysis has been employed to investigate the use of language and to explore how human societies produced and maintained meanings and realities of things. Discourse has been used in the field of psychology since the era of Greek and Roman scholars (Cook, 1989), and has become of considerable importance in social sciences in the last two decades when it has been employed to analyze talk, texts, and social practices (Potter, 1996). Currently, discourse analysis is a useful tool to gain insight into perspectives, opinions and understandings of people about natural resource matters. According to Schriber and Moring (2001), the purpose in using discourse analysis is to understand how the ways of knowing are produced.

In its application, discourse analysis is used to analyze written and spoken language and to inquire into the contexts of language (Gee, 2005) at micro and macro levels. According to van Dijk (1998), the analysis of data by the discourse analysis approach can be applied to micro and macro analysis. The micro-analysis focuses on the function of language and is commonly applied to psychology (Potter, 1987). The macro-analysis focuses on social contexts and problems and has been applied in the fields of public policy, education and minority culture, among others. Because macro discourse is used in several fields, its definition varies. For example, Hajer (1995) applied macro discourse analysis in environmental policy. His definition is 'a specific ensemble of ideas, concepts and categorizations that are produced, reproduced, and transformed in a particular set of

practices and through which meaning is given physical and social realities' (Hajer, 1995 p44).

In the present study, macro discourse analysis for inquiring into the language used in the production of environmental knowledge is emphasised. The macro discourse analysis is compatible with a qualitative research methodology. It is commonly applied within a social researches (Hajer, 1995; Richardson, 1996; Fischer, 2003; Gee, 2005).

Discourse analysis acknowledges that reality may be not a single entity, rather, it is a product of language in social interaction (Manning, 1979). As a result, realities of natural resource matters are produced from the perspectives, opinions and understandings of people and are transferred through their spoken language and utterances with other people. Therefore, the discourse analysis approach is suitable to analyze data and gain rich information from interview approaches. This is because it can elicit perspectives, opinions and understandings from interviewees' dialogues.

In this study, the discourse analysis method is a fundamental to data analysis at the macro level. The discourse analysis method used is based on the work of Gee (2005 p11) who outlines seven basic aspects or 'seven building tasks'. The components of the seven building tasks consist of significances, activities, identities, relationships, politics, connections, and sign systems or knowledge. Following Gee's approach to analyze data, these seven building tasks involve asking questions about how language is used to build up different perspectives, opinions and understandings of natural resource matters among interviewees.

The seven building tasks approach is compatible with this study. They constitute an inquiry tool used to understand several issues relevant to human relationships, such as social conflict, disputes, argument, perspective, meanings, and ways of knowing. This approach of discourse analysis can be used to investigate perspectives, opinions and understandings from spoken words throughout the interview. The seven building tasks are shown in the Table 3-1.

Please see print copy for image

Table 3-1 the seven building tasks of Gee (2005)

3.5.2 Implementation of data analysis

This section describes how certain rules for data transcription and analysis are used as a guide for the process of data analysis. As suggested by Gee (2005), they provide for validity in the analysis. Using Gee's principle steps, two general rules were created and applied in this study: a rule of data transcription, that is, transcribing the spoken to verbatim texts of what was said; and the rule for analyzing the discourse analysis approach. These rules will be described in the following subsections.

In rules of data transcription, according to Patton (1996), transcription is not simply undertaken to capture features of interaction and contexts; a good transcript takes time. The rules of data transcription are set up in order to facilitate and constitute a degree of validity in the detail of language and context. The rule of data transcription and the detail of the level of transcription provide a certain degree of validity in discourse analysis (Gee, 2005). The steps below are adapted from the Jefferson transcription notation (Jefferson, 1984), this detail can be seen in Appendix 3.

The interview recording data were transcribed to a written text. The written texts of the spoken material enabled greater access to excerpts in terms of engaging with natural resource themes than did relying only on the audio-tapes. This rule of data transcription was developed and comprised of four steps as follows. The detail of the data transcription can be seen in Appendix 2. The steps are shown in Table 3-2.

Step 1	Translate from Thai language to English: from Thai words to English words or Thai phrases to English phrases
Step 2	Replay and listen again and put the running number of recording data in the lines, as well as putting the following transcript techniques and symbols
Step 3	Transcribe the English back to Thai language again. This was done after all the recoded tapes from 41 interviewees were transcribed using the steps 1 -2
Step 4	Listen to the recorded tapes again to ensure accuracy between recording data and text data

Table 3-2 Steps used in translation

In aspect of rules of data analysis, a discourse analysis approach was employed for data analysis. The rule of analysis of the discourse analysis approach enables the researcher to analyze and interpret data. It starts from looking at what interviewees say about their practices, thinking, or feelings relevant to natural resources and conservations. This is followed by an analysis and interpretation of their individual perspectives, opinions and understandings. Four main steps of the rule were established to analyse and interpret what is shown in Table 3-3. Their details are described in Appendix 3.

Step 1	Excerpt data from the transcript texts of each interviewee. These excerpts focus on relevant local environmental issues. Such relevant issues are analyzed through the dialogue of the interviewees, both direct and indirect, on natural resources and their ideas, perspectives, and concepts relevant to natural resource utilization and conservation, and their own activities.
Step 2	Chooses key words and phrases in the dialogue, such as indigenous words, academic words, common words, idiom, argument, and narrative that were relevant to the uses and conservation of various natural resources.
Step 3	Uses Gee's seven building tasks to analyze words, phrases, idiom, narrative, argument and any other relevant language form used in the dialogues. Analyzes how each form of language was used to establish identity, significance, activities, relationships, politics, connections, or sign systems and knowledge.
Step 4	Establish natural resource themes. Each dialogue analyzed by using Gee's seven building tasks was categorized into themes of land, water, plants, and animals. The themes facilitate identification and interpretation of different knowledge, perspectives and meanings that are held by different interviewees.

Table 3-3 Steps of the discourse analysis

3.6 Trustworthiness and Validity of the Study

Trustworthiness of qualitative research is often associated with the issues of validity and credibility. In particular, because of the interpretive nature of the research, the design and implementation of the research needs to be rigorous. In this study four approaches proposed by Patton (1990) were used to enhance the validity and creditability of the research. They comprise approaches for data collection, rigorous rules to define the terms of analysis, rechecking, and personal credibility.

Different approaches were employed as a means of supporting the validity of data. Data from two different approaches, interview and observation, were used to analyse and interpret the same environmental issue. These approaches helped to check and confirm the validity of data. The data from observation sources enabled monitoring of the quality of the interview data. For example, data from observation of natural things that interviewees referred to during an interview could establish the credibility of what the interviewee said. In addition, the approach to data collection was modified appropriately by opening opportunities for the interviewee to talk freely about the context of natural resources use and conservation. It was realized that if interviewees talked freely on natural resource matters without disturbance they could give richer contextualized data than if they were

answering pre-set questions. Steps for data translations and analysis were created as described in section 3.5.2. These rules are rigorous approaches for controlling the quality of translations and analysis.

Rechecking with interviewees was a further step used to enhance validity. Several interviews were conducted with each interviewee during the first field trip in order to gain more complete data covering the natural resource issues and also to recheck the data received by raising the same issues at different times. In addition, the results of data analysis from the first fieldwork were rechecked by interviewees in the second field trip.

I used the concept of personal credibility to enhance the validity of the methods of data collection. Personal credibility refers to self awareness and reflection of the researcher on his/her potential biases and predispositions that may affect the research process and conclusions (Johnson, 2004). The researcher is an instrument in inquiry (Patton, 2002), who could influence interviewees to provide information they believe is described by the interviewer. Steps were taken to avoid playing a role in which the interviewer exercised hegemony over interviewees (see Agar, 2005). For example, particular care was taken to not talk too much during interviews in order to avoid an interviewee interpreting my speech as directions as to what I needed, and responding to that rather than relating NRC in their own terms.

My knowledge background and experience are also important for personal credibility as a researcher understanding this topic and should be included here (Patton, 2002). At least three of my major experiences are appropriate and relevant to studying this topic: experience when I was a child and adolescent, my own occupational experiences, and educational background.

The first experience is with respect to my life experience growing up in a farming family in the Thai countryside. I was born and grew up in a rural area near the tropical forest and was there until I was twenty years of age. Villagers in my birthplace had close contact with local natural resources in their everyday lives and work in terms of utilization and

conservation of natural resources in the forest and creeks. Their knowledge of these natural resources was derived from their parents and previous generations through observation and trial and error. While they lacked knowledge from a formal educational system, and they did not know the language of conservation, biodiversity or ecosystems, they understood water, soil, trees, animals, and air based on their own knowledge and meanings. They had their own ways of knowing of how to use natural resources to meet their basic needs. My own experiences of the diversity of natural resources in a rural area during childhood and adolescence influenced me to live and work in such areas. Later I decided to study community sanitary and health science and then I worked with rural communities. This experience encouraged me to consider country areas for this research. This is because I was sure that I had a background that would assist me in gaining insights into rural communities in Thailand.

The second set of experiences is my past occupational experiences in both rural and central government agencies. These experiences predisposed me to be interested in different knowledge, perspectives, and opinions related to local natural resource management and conservation. For twelve years I had worked as a health official who practised in the field of sanitation and environment at a health station in the countryside communities. This work was close to villagers at a grassroots level. Looking back through this experience, I relied on my work on health education components which were relatively ineffective in changing the behavior of people because this was inappropriate for their lifestyle, it did not match their ways of knowing, was unfamiliar to their way of life, or was irrelevant to their needs.

The advantage of working closely with villagers in an rural area was that I derived insights into their traditions, belief systems and life styles. These experiences predisposed me to be interested in the issues of the countryside communities and local systems of natural resource conservation and utilization that would benefit from systematic exploration through research such as this.

I had also worked for eleven years in a position as a senior environmental policy officer at the Office of Natural Resources and Environmental Policy and Planning under the Ministry

of Natural Resource and Environment. There, an essential strategy was to underpin policies and plans with appropriate reasons which would be accepted by decision makers. Usually the rationale of the policies and plans were developed from scientific information supplemented by photographs. This is because scientific information was acknowledged in policymaking and could persuade decision makers to accept and agree to policies and plans. I was not surprised that the rationale for conservation policies and plans contained plentiful scientific information to supplement the importance and significance of such policies or plans. The voice of local villagers was not given attention in the process of policymaking, particularly in the final stages of policy decisions, because those voices were not considered as significant evidence for persuading the policy decision makers.

My experiences in policy and plan making related to natural resource management and conservation motivated and challenged me to investigate different perspectives, understandings of meaning and realities in natural resource matters. I was also inspired to look at alternatives for supporting the implementation of natural resource conservation policy at the grassroots level.

The third major experience, my educational experiences, has also contributed to my curiosity about how different perspectives, understandings and knowledge play a useful role in the domain of natural resource management and conservation. In my educational background, I gained knowledge from studying environmental sanitary issues, environmental management, and environmental science. While I worked as an official I also gained supplementary scientific knowledge from training, meetings, seminars, and visiting sites. I relied on scientific principles, concepts and ideas that are different from the principles, concepts, and ideas that are held by countryside villagers whom I encountered.

Looking back, my life experience, educational and occupational backgrounds, and my life in the rural community, coinciding with my curiosity about distinct sorts of knowledge, perspectives and ways of knowing have provided a suitable background to enable me to conduct research that will provide insights into natural resource conservation in rural communities in Thailand.

3.7 Summary

This chapter has presented methodology and approaches used in the study. Qualitative research is the most appropriate methodological choice. Data collection was guided by three approaches: informal conversational interview, semi-structured interview, and unstructured observation. The approaches for qualitative data collection and analysis comprised the study-area selection, design for selecting interviewees, and design for collecting data. The informal conversational interview, semi-structured interviews, and unstructured direct observation had much to offer as suitable ways for eliciting perspectives, understandings, opinions and ways of knowing from both villagers and various scientific experts. Discourse analysis was the chosen analytical method. This analysis used principles developed from Gee (2005) and rules and various strategies for enhancing trustworthiness and validity were implemented.

As mentioned in section 3.5.1, the analysis of data in this thesis was laid on a form of macro level of discourse analysis, so the results from data analysis were not emphasised in the function of language. Rather, the resulting presentation was focused on the themes that emerged from the macro discourse analysis. In addition, in order to illustrate and explicate of discourses of interviewees on his/her perspectives, understandings, opinions and ways of knowing, important of what interviewees said were quoted in the resulting presentation that emerged throughout Chapter 4, 5 and 6. However, name and position of each interviewee did not appear in his/her quotation because of issues of ethical and confidential issues.

The next chapter will present the results of data analysis. Chapter 4 outlines the background of study area, followed by chapter 5, which presents central conservation institutions and approaches, and chapter 6 presents results in the study area.

Chapter 4

Background Of Study Area

4.1 Introduction

This chapter provides the historical, political and geographical background of Thai natural resource conservation (NRC). In this chapter, data from literature, interviews and observations are used to describe and explain the background to the study. The purpose for providing the background to the study is to assist understanding of the study results that will be presented in chapters 5 and 6. Chapter 4 proceeds as follows. Section 4.2 reviews the historical development of natural resource management and national parks in Thailand as it relates to global conservation concepts. Section 4.3 focuses on the historical establishment and management of the Kaeng Krachan National Park where the study area is located. Section 4.4 presents a description of the Karang community that is part of the case study.

4.2 Historical Thai Natural Resource Management

Thailand, located in the central zone of Southeast Asia, is bordered by four countries and two seas. The northern boundary adjoins the People's Democratic Republic of Laos. The eastern boundary adjoins the People's Democratic Republic of Laos, Cambodia and the Gulf of Thailand. The western boundary adjoins Myanmar and the Andaman Sea. The southern boundary links to Malaysia. Thailand is administratively divided into 76 provinces. Each province is divided into districts (Amphur); each district is divided into sub-districts (Tambon), and each sub-district is divided into villages (Moo-baan). Each level has hierarchies of government organizations under the bureaucratic system.

Because Thailand is located geographically in the tropical zone, this country contains a rich diversity of flora and fauna. Gray et al. (1994) report biodiversity of Thailand was about

3,000 species of fungi, 600 species of ferns, over 1,000 types of orchids, and 282 mammalian species. This rich biodiversity of natural resources is related to settlement of local people who choose locations that lead to easy access to these plentiful natural resources for raw materials to sustain their living. Therefore, having lived long among various natural resources, they have perspectives, opinions and practices on these natural resources. These concepts related to natural resources have been accumulated and transferred from generations to generations. In addition, the rich biodiversity of natural resources has been significant interest of western experts by mean of natural resource conservation and utilization.

As this thesis emphasizes the two different concepts of natural resource conservation regarding human nature relation, the following sections will present a narrative on the history of the natural resource management and conservation (NRM/C) in Thailand. To facilitate the easy understanding of the chronicle of Thai NRM/C, the narrative is characterized into two intervals: the NRM/C based on Thai traditional concepts before influence of western concepts, and the NRM/C under the influence of the global NRM/C concepts.

First, the Thai NRM/C was based on Thai traditional concept and the absolute monarchy system. Before the 1850s, the natural resources of Thailand, particularly land and other natural things in the land were owned and managed by the King (Sato, 2000). The King used the land for national administration. He provided land sizes for official's wages, instead of official salary (Kemp, 1981). Land was granted to the officers with unequal size depending upon the officers' positions: a higher official position would gain a larger area than a lower official position (Kemp, 1981; Department of Education, 1985). In the case of general people, although they were not granted land from the King, they could freely use any land and natural resources outside places of the official holders.

It is notable that Thai official policy on management of natural resource at that time did not have any significant conservation component because natural resources were plentiful compared to people's utilization with conditions of low resource of development

technologies and low population (Kemp, 1981; Sato, 2000). However, the conservation of natural resource was being embedded in people's practices under their belief systems, social culture and religious rules. Certain rules of Buddhism, for example, were valuable to wildlife conservation because they did not allow Buddhists to kill animals or eat the meat of certain animal kinds, such as elephants, tigers, and king cobras. Moreover, certain Buddhists who strictly respected and practiced the Buddhist's rule avoid killing every kind of animals. In addition, it was recognized that the temple areas were wild animal conservation zones that Buddhists avoided killing animal in the areas. Another example of wild animal conservation under the social acceptance is that everyone acknowledged that they could not own the white-elephant because this animal belonged to the King everywhere.

In that time, the NRM/C was appreciated and compatible within Thai society and was not depletion because natural resources were plentiful for sustaining and supporting resident Thai citizens, there was no policy for exporting natural resources to other countries and also the NRM/C was not yet influenced by external conservation concepts. Although foreigners from European countries have come to Thailand since the middle of the seventeenth century and some of these westerners brought their ideas to work in the Thailand bureaucracy. Yet their ideas did not influence to change in the traditional orientation of Thailand NRM/C (Hongladarom, 2004).

Second, the Thai NRM/C was based on the influence of global concepts. In the middle of the nineteenth century, the Thai NRM/C has been subjected to powerful western concepts (Hongladarom 2004). In the early colonial era when western countries colonized oriental countries, they brought western scientific principles and technologies to take advantage of natural resources in their colonies. Thailand, even though it had never been a true colonial country (Hongladarom, 2004; Robbins, 2007; Nye, 2008) like neighbouring surrounding countries (Nye, 2008), was inevitably impacted by the mainstream of such colonial concepts and principles of the NRM/C. Under pressure from western countries, Thailand had to turn to a way of national development following the western model (Hongladarom, 2004).

In the middle of the 1880's, the global natural resource management emphasised for human utilizations. This influenced the Thai NRM. There were two issues that had central impact on the natural resource utilization in Thailand: the opening of the country for trade and concession to western companies and the reconstruction of a national administration model following the model of western modernization. Both reformed orientations were grounded on western concepts and principles and then significantly influenced the paradigm shift of the Thai NRM/C, as discussed below.

After the first agreement for trade concessions under the Bowring Treaty with the British in 1855 (Sato, 2000) and the following Treaties, Thailand was compelled to open trade and concession on natural resources such as teak timbers and ores to western companies. As a result, natural resources of Thailand were exploited by foreign companies using western advance technologies without concerning conservation of natural resources.

In addition, the policy related to natural resources was carried out under the influence of the western concepts (Satyawadhana 2001). This is because the Thai government accepted reformation of national development as in western countries. The government established bureaucratic organizations under bureaucratic system following the western model, instead of the traditional absolute monarchy system as before. The Royal Forest Department was established in 1896 with the assistance of a British forester (Hirsch, 1990; Wong, Delang et al., 2007) initially aimed to support forest preservation for logging concession and timber trades (Sato, 2000; Wong, Delang et al., 2007).

In 1961, Thailand established a master policy for national devolvement following the western modernizing model. It was called the First National Economic and Social Development Plan (Pensri, 2003). As the national development was run along this western model, natural resources were used for the national development. Many environmental policies and plans related to the natural environment were established to speed up economic growth.

At the same time, a policy of natural resource protection under western concept arose. The western conservation principles were the Yellowstone national park model that separate humans from places of natural resources. Initial official orthodox national park obviously started when the first national park, Khao Yai, was gazetted in 1962 (Wittayapak & Dearden, 1999). The section 4.2.1 will future present detail of the Thai national park history.

The western NRM/C concepts flowed to Thailand has been long standing throughout the training forest program and education at schools (Delang et al., 2007). In addition, the foreign scholarship and aid funded consultants influenced to change the perspectives and ideas of Thai official technocrats in following the western principles (Nye, 2008). These official technocrats brought western concepts and principles from studies in western countries to determine a way of the Thai NRM/C (Stott, 1991).

4.2.1 History of national parks in Thailand

Forests are significant natural resources. Those who destroy the forests are the enemy who destroy the nation's security (Sarit quoted in Luangaramsri, 2001 p75)

This section provides an overview of the Thai national park history. The quotation above indicates the rhetoric of the military government of Field Marshall Sarit in 1958 to announce the initial conservation of the forest as national estate (Vandergeest, 1996; Luangaramsri, 2001). This is the starting point of the orthodox national park model in Thai natural resource conservation. After that, the American national park concept was introduced in Thailand in the 1960s (Wittayapak, 1996; Roth, 2004b; Wong et al., 2007). The National Park Agency was established and the National Parks Act was promulgated in 1961 (MacKinnon 1997). The first national park, Khao Yai, was gazetted in 1962 (Wittayapak & Dearden, 1999), along the lines of the so-called Yellowstone model (Wittayapak, 1996; Roth, 2004b). These conservation institutions provided a significant basis for forestland conservation through a concept of natural resource conservation whereby humans were forbidden to encroach on protected areas (Chalermrath, 1971; Hirsch, 1990; Vandergeest, 1996; Wittayapak, 1996).

At that time, this concept of national parks was willingly accepted in Thai natural resource conservation by the government. This is because Thailand had experienced poor outcomes from the utilization of natural resources for socio-economic development. For example, the forest area had been dramatically reduced since the 1950s (Flaherty & Filipchuk, 1993; Wittayapak, 1996; Wittayapak & Dearden, 1999; Buergin, 2003). The national park model was accepted by the Thai government as a means of conserving the territorial forest which covers fifty percent of the country (Sato, 2000). The establishment of Thai conservation policy, institutions, regulations and implementation was supported by international conservation agencies such as the IUCN and the World Bank. These international agencies provided the Thai government with western experts, technologies and funding to support the protection of Thailand's rich ecosystem in the face of rapid deforestation (Laungaramsri, 2002; Roth, 2004b). It is notable that conservation in the form of the national parks not only can serve to protect the remaining forest and prevent the ecosystem loss (Wittayapak, 1996), but has also become associated with national identity (Buergin, 2003) and increase in the power of bureaucratic conservation agencies (Wong et al., 2007).

However, Roth (2004b) observes that the policy behind this conservation was similar to the 'modern American method' that did not allow local villagers to have access to natural resources. The management of national parks became a significant means by which the forests were protected from human activity (Vandergeest, 1996; Roth, 2004b). The park officials equated the villagers living in the national park with deforestation (Hirsch, 1990; Roth, 2004b; Hares, 2008). This perspective has become the official discourse regarding villagers and their livelihood whose practice of deforestation still has not changed. Current researchers claim that the national park officials still view upland agriculture operated by ethnic minorities as a significant cause of resource degradation (Wittayapak, 1996; Roth, 2004b; Wong et al., 2007; Hares, 2008). To achieve the protection of forests, the National Park Act and the Conservation Act have been amended and used as mechanisms determining who can have access to what, and to establish further national parks, facilitating the creation of boundaries between conservation areas and other types of land (MacKinnon 1997; Neumann, 1998; Roth, 2004b).

During the last three decades, the orthodox national parks were established in many areas and the orthodox national park model has developed strong roots and prominence in Thai NRC. In 2006, there were 144 national parks were established. They were more than one third of the national park that was established between 1962-1972 (Barnaud et al., 2008). Wittayapak (1996) gives two significant phenomena that led to the increase of the national park sites in Thailand: the hunting of wild animals by officials with a helicopter in Thung Yai Narasuan Wildlife Sanctuary in 1973, and the disaster of mass land slides in the South in 1989. These phenomena stimulated the Thai government to develop and enforce a strict conservation policy in national parks (Roth, 2004b); for example, the collection of any wild product in national parks has become illegal (Hares, 2008). However, in the 1990's, the orthodox national park concept in Thailand, as many parts of the world, has been challenged by a new conservation concept that accepted local communities and their knowledge and practices to involve in national park management (Davey, 1993; Robbins, 2000; Eaton, 2005).

4.2.2 Influence of new conservation concept on the orthodox national park management

As mentioned in section 2.3, in the 1992 Earth Summit Conference on Environment and Development, the UNCED presented Agenda 21 called 'The Program of Action for Sustainable Development'. In Agenda 21, the new conservation concept based on humans as a part of the ecosystem was introduced (Jeanrenaud, 2002; King, 2007). This new concept of conservation was driven by notions and principles of sustainability, biodiversity and participation. The sustainability notion in the NRM/C focused on the human as a part of ecosystem, and the key purpose is to support the human use of natural resources as sustainable for current and future needs. The biodiversity notion under the umbrella of the new conservation concept is the simultaneous utilization and conservation of various biology (ONEPP, 2002; Somchevity, 1996). Its principle is not the separation of natural resources from human utilizations, rather it focuses on the involvement of local people to use and protect biological resources at their living biosphere in order to support benefits of human beings at local, national and global levels. The participation notion is a mechanism

for engaging local people in activities of sustainability and biodiversity for natural resource conservation and utilization management. Its approaches that regularly appears as mechanism in the process of the NRM/C in documents about international NRM/C (UNEP, 1992; Mauro & Hardison, 2000; King, 2007; UNEP, 2007a), is to facilitate people and to encompass them joining (van den Breemer 1995). The principles of these nations have had a significant impact on orthodox national park management in Thailand.

Since 1992, these notions have been accepted at the national level in Thailand that is a UN member. As a result, they have been distributed to discourses and principles of environmental management, and commonly appeared in documents on natural resource policies and planning (ONEP, 2006). These notions, however, become significant influence the NRM/C when they are included in the Constitution of 1997. After the Constitution of 1997 recognized the rights of traditional communities in the management, maintenance and preservation of natural resources (Salam et al., 2006; Salami, et al, 2006)), the term of participation appears in the article 46, 56 and 79, the term of sustainability appears in article 46, and the term of biodiversity appears in article 56.

The significant reasons of why the Constitution of 1997 recognized these notions and indigenous people are widely accepted in the new conservation concept to achieve the NRM/C. They have influenced the thinking, direction and principles of the Thai NRM/C. The new conservationists enforced these notions and indigenous people to the national regulation and policy of the NRM/C. Under the mainstream of new conservation concept, when the Constitution of 1997, so-called 'the people Constitution' (Barnaud, at al., 2008 p559) was drafted in the civilian government who come from full election. Because the civilian government has taken more conciliatory and populist orientation to support the rights of people (Vandergeest & Peluso, 1995), the government assigned the council to improve the previous Constitution. After the council members were selected from representatives of various social groups including representatives from the local people and non government agencies (Klein, 2003) drafted the Constitution, the draft was taken in the public hearing in many times. The draft was recommend by various groups to contain the right-base of local and indigenous people for sustainable management of biodiversity.

And then the draft was agreed with the civilian government who contained with politicians from the represents of people agree (Klein, 2003).

After the notions of participation, biodiversity, sustainability and right-base of indigenous people are introduced in the Constitution of 1997, they impacted on the orthodox national park policy because the national park policy needs to turn its direction to facilitate these notions according to the Constitution requirement. In addition, based on the new conservation concept the government has a policy to support forest-based livelihoods and residence in and surrounding the national parks. This government policy led to tension in the designation and management of national parks. For instance, in 1998, the Prime Minister, Chawalit Yonchaiyudh, had proposed allowing communities that had settled in national parks before the national park announcement to remain and use the forests for sustainable living (Johnson & Forsyth, 2002). Under the new policy that followed this proposal, national park officials have to delay the resettlement of people from the national park (Buergin, 2003). Otherwise they could not fully conserve some national park areas as they might wish in areas where villagers were now allowed to remain.

Another example of tension and incompatibility in the NRM/C policy is an issue of a community forest bill that established with purpose to support local and indigenous people to manage natural resources in their living areas. This bill was laid on the purpose of the Constitution of 1997 and was agreed with and supported by new conservation agencies and NGOs. However, the bill could not announcement because NGOs wanted to the establishment of community forests in national parks, whereas national park officials and other conservationists disagree (Johnson & Forstyth, 2002). So far the bill had still not been passed the Houses of Representatives (Wittmer & Birner, 2005). This indicated the incompatibility in the Thai NRM/C policy.

In addition, the orthodox national park is impacted on an issue of the reformation of the Thai bureaucracy in 2004. The reformation caused government agencies which were related to natural resources and the environment to be included in the Ministry of Natural Resources and Environment. These ministerial agencies then changed the nature of their

involvement in conservation policies and implementations. For example, the National Park, Wildlife and Plant Conservation Department was newly established to directly manage national parks. This meant that all national parks were transferred from the Royal Forest Department to this national park department. Moreover, other agencies in the Ministry of Natural Resource and Environment have been empowered with responsibilities in natural resource conservation policy and practice. For example, the Office of Natural Resources and Environmental Policy and Planning has responsibilities to operate and support ‘the environmentally protected areas’ under the Enhancement and Conservation of Environmental Quality Act of 1992. In addition, the Office of Natural Resources and Environmental Policy and Planning was assigned as a cornerstone agency to carry out policy and planning of the biodiversity, rather than the National Park, Wildlife and Plant Conservation Department. The Office of Natural Resources and Environmental Policy and Planning established the National Committee on Convention on Biological Diversity to support the Convention on Biological Diversity (Somchevita, 1996). These responsibilities may impact on traditional park management because of overlap with the work of the national park agencies. This overlap has caused tension and inter-bureaucratic competition in different conservation policies and practices.

Currently, the management of the national parks is under the responsibility of the National Park, Wildlife and Plant Conservation Department. National park administration is carried out via a bureaucratic system with a hierarchy that links the central agencies to the on-ground national park officials (see Figure 4-1). The National Park Department, with the support of the National Park Board and the National Park Act, has responsibility to determine the direction of the national park policy and implementation. The concepts and approaches of the national park management of the central agencies are transferred to national park officials. The central park agency influences the orientation of the national park management. As a national park interviewee said about the direction of the national park management ‘policy of national parks is dependent upon the director general of the department’, indicating the power of central agencies in the national park implementation. Then, the national park implementation will present by focusing on the Kaeng Krachan National Park.

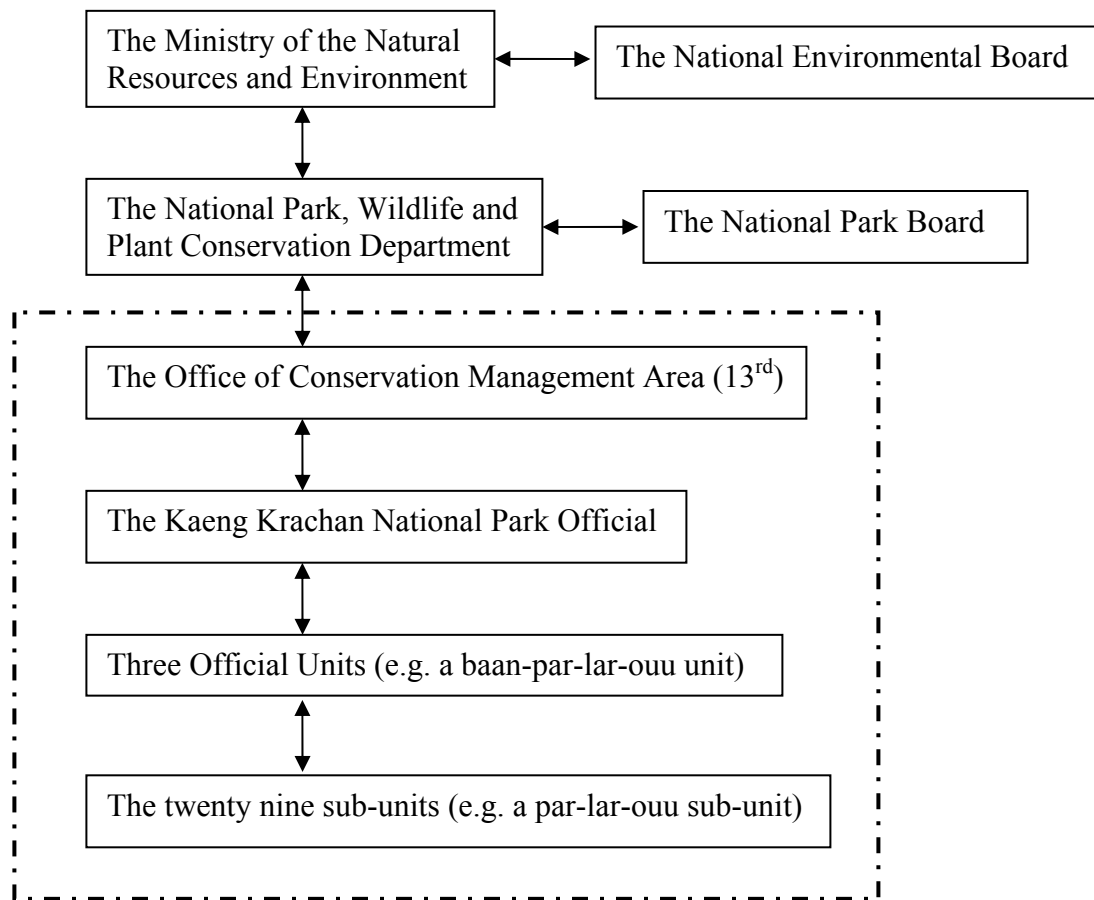


Figure 4-1 The structure of national park management

4.3 Kaeng Krachan National Park

This section introduces the Kaeng Krachan National Park that is part of the study area. The Kaeng Krachan National Park is located in the South-western region of Thailand (see Figure 4-2). Its boundary is adjacent to Myanmar. It is the 18th national park created, and the largest one in Thailand.

Please see print copy for image

Figure 4-2 The map of Keang Krachan National Park: Source of a map: TISTR (1994), and <http://www.un.org/Depts/Cartographic/map/profile/thailand.pdf>, retrieved 31/02/2008

TISTR (1994) reports that the Kaeng Krachan National Park is an area of significant biodiversity that contains much wildlife including over forty mammal species. Several endangered species present in this park such as elephant, tiger, clouded leopard, Malayan sun bear, Asiatic black bear, barking deer and lesser mouse deer, tapir, the armored Malayan pangolin, and several primates, and over 250 species of birds including the great and blue-throated barbets, black-eared black shrike babbler, the green broadbill, red-billed malkoha, the rachet-tailed treepie, serpent eagles, scarlet minivets, kaalej pheasants, and grey peacocks.

A principle of Thai national park management is similar to that which operates in the United States of America. That is, the emphasis of the strict demarcation of the boundary between spaces of nature and human settlement and protection of national parks from squatters and other inhabitants (Neumann, 1998; Adams & Hutton, 2007). In addition, national parks are represented as the national estate. A national park interviewee commonly used words, such as ‘the national park is national property that cannot disappear’ to recognize the national park as significant to the official national estate.

The Kaeng Krachan National Park was established in two stages. The first part of the current national park, including some areas of Nhongyaplong district and Tayang district within Petburi province, was announced on 12 June 1981. This part was about about 2,478 square kilometers in total area. The second part, including the study area, was established after the forest officials, from the Royal Forest Department surveyed the area in 1983, and reported to the National Park Board in 1984 that the forest in the Hnongplup subdistrict, Houhin district and Prachuopkrilikun province, was of environmental significance with beautiful landscapes, caves, waterfalls and various kinds of wild animals. Further, they reported that these natural attributes were in decline due to squatters, hunters and timber getters. The National Park Board then announced that areas would be added to the national park inventory by including them in the Kaeng Krachan National Park. This second part included parts of Hua Hin district, in Prachuapkhirikhan province, which included certain parts of the study area. These became parts of the Kaeng Krachan National Park on 23 January 1984. The area of this part was about 437 square kilometres in total (TISTR, 1994). The purpose of the national park extension is to protect natural integrity and landscape features. These natural qualities are evaluated and reported by the forestry staffs from the central level.

The Kaengkrachan National Park was announced in 1981; before that, a headman came here with an order and a small budget to survey, he did not examine [assess] how many people were living in the forest because in the old concept, the official wanted to evacuate all villagers from the national park. However, after the national park announcement, the matter of the national park was sent to and attached at government offices, sub-district offices and village chief's houses in order to announce for someone who had living land in the national park area to declare for land replacing land due to the national park announcement, but in that time nobody declared an interest on the land within the proposed park [National park interviewee: 28-04-05]

As witnessed in the quotation above, a national park official talked about the history of the Kaeng Krachan National Park. This statement is recounted because it illustrates nicely the central perspective of the form of the national park process. It is an exemplary tale of how conservation policy lacked attention to the Karang at the initial stages of national park establishment. The Royal Forest Department sent an official with a small budget to survey the forest area, and report to the National Park Board. His narrative also reflects the implementation of national parks under the traditional concept of the national park that focuses on the natural values and overlooks the values of land to indigenous people. The initial policy was to evacuate villagers from the national park area. Therefore, the national park official seemed uninterested in whether or not there were many people in the proposed area for national park establishment because these people would have to move out of the national park. However, the last statement displays the rhetoric of a national park interviewee to argue official benevolence on the Karang because national park officials opened an opportunity for the Karang to claim their rights of land.

After the national park announcement, information about the national park was distributed to the official network, such as sub-district offices and village chief's houses in order to tell the people who had been living on the land now in the national park area about losing the rights to their living areas and being displaced from the national park. After that, the responsibility was passed to national park manager. The national park offices and officers were established. These officers had the power to arrest squatters, hunters, loggers, and polluters who have been declared illegal under the National Park Act.

At the time of the fieldwork for this study, the management of the Kaeng Krachan National Park consisted of a main official, three official units and twenty nine official sub-units (Figure 4-1). The area was divided into three zones and twenty nine sub-zones which were the units of protected forest. Each zone was managed by an assistant headman who controls the sub-zones. The sub-zones were various areas depending upon the geological features and environmental sensitivity. For example, sub-zones located near communities which were likely to be squatted by people were smaller than sub-zones located in the heart of the national park with few problems from squatters.

All in all, the change of the forest to the national park is related to human and non-human values. The national park concept and management were based on the Yellowstone model that is more focused on the non-human values than the indigenous villager's values (Neumann, 1998; Adams, 2005; Adams & Hutton, 2007), with management of the national park as space without human activities (Ingold, 2000). Under the national park management, the boundary was demarcated in terms of the areas of natural resource habitat and of human settlement. Technologies, such as maps, GPS and concrete posts were applied to indicate the national park boundary (TISTR, 1994). The network of relationships between the Karang and wildlife and wild plants was ignored and disrupted and this impacted on Karang culture and their life way in the forest.

However, under the influence of the new conservation concept in Thai natural resource management and conservation since the 1990s, as mentioned in Chapter 2, the national park management has changed with alterations in government policy in 1998. The principle of evacuating the Karang from the national park was removed when a new political party became the government. The policy of the new party was based on the concept of sustainability and allowed villagers who had been living in the area before the Kaeng Krachan National Park announcement to have rights to use the area. After the cabinet resolution and an announcement of the new government policy, the national park officials had to adjust their approach. They undertook activities following the new policy to control people who are now allowed to live in the national park. In practice, the Karang who were allowed to live in the national park have to operate by the requirements of national park officials, by not, for example, plowing the soil surface and not causing pollution. As in many national parks, the strict-control of human activities by officials in the national park is a cause of conflict between national park officials and indigenous people (Roth, 2004b; Adams & Hutton, 2007). Also the Kaeng Krachan National Park has caused conflict between national park officials and the Karang who have opposing and different activities in the national park: the former wants to protect, the later wants to use natural resources. The Karang have continued to use natural resources and to claim their rights to the land, and to undertake their traditional practices in the national park, while park officials have

activities to protect natural resources in the national park. These contrasting activities will be presented in chapter 6.

4.4 Karang Settlement History and Land Use

The study area is named Baan-par-lar-ouu (also called Moo-baan-karang). It is village number 3 of the Houy-sat-yai sub-district, Hua-hin district, Prachuabkririkhan province. The main geological feature of this village is that it is formed in a pan-shaped basin surrounded by forested hills. Two tributaries of the Pran River flow through the area; one is Huoy-par-lar-ouu-noi, arising in the mountains; the other is Huoy-par-lour, generated from the southern mountains. The two streams join at the village and become a single stream flowing south of the village and connecting with the main flow of the Pran River. These features of the Karang village area are shown in Figure 4-3.

Historically, the introduction of human cultures in this place began more than two hundred years ago when the first Karang group settled (TISTR, 1994). A first group of the Karang moved from a *Satu* community (a name of a Karang village that is located in the forest, the west of the village). Later groups moved from the surrounding area and some of them moved from Myanmar, especially after the Karen army collapsed. Initially, the Karang sustained themselves by using their indigenous techniques to use and adapt places and natural resources for their settlement and livelihood. The site of their traditional settlement was alongside the waters of the *huay par lar uoo noi* and the *huay par lour*.

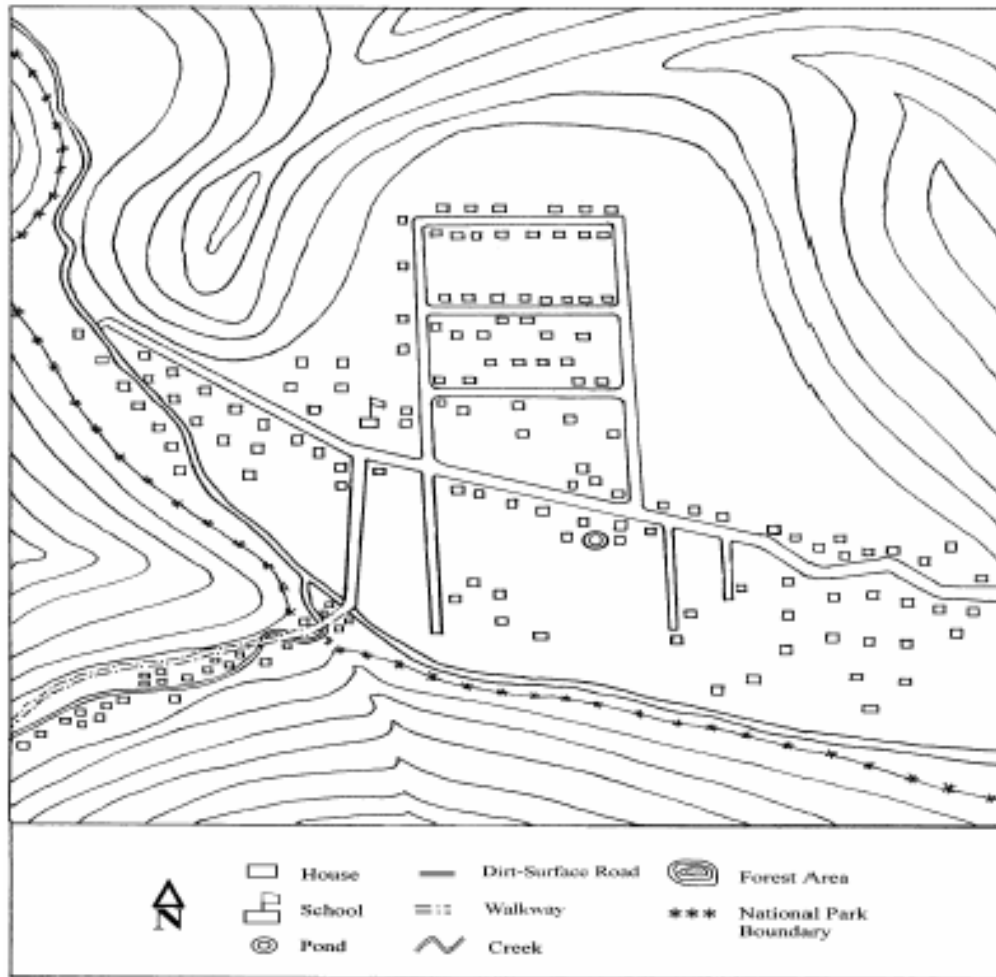


Figure 4-3 The location and features of the Karang village (Sources: a drawing map made by a village chief modified with survey data)

In 1967, the traditional construction of settlements and livelihoods was significantly changed by government policy. This occurred in a period when the government introduced the policy of Anti-communism for National Safety in Democracy (Luukkanen, 2000; Buergin, 2003). The government was concerned about communist infiltrators in the villages. In order to implement the anti-communist policy, the government wished to centralize and modernize the Karang in this area. Therefore, all the Karang were evacuated to a temporary immigration centre, namely the 712 center. This centre was located on the bank of the Pran River (about two kilometers south of the village).

In this temporary accommodation, modern approaches to basic needs, such as health services, education and agriculture were forced on the Karang by the government agencies who wanted to develop the Karang under policies for national safety and social development. This introduced the Karang to modern health services, education and crop cultivation. The government's aim was to improve their status and encourage them to accept modern ways of life so as to they could be similar to other Thai people.

In general, in the 1970s and 1980s, after the implementation of the policy to minimize the activities of communist insurgents, a village area was logged and the land cleared for a new settlement (Mogens et al., 2006). Ten years later, while the Karang were still required to live in the 712 center, their original village area had become reforested. The policy of forest utilization for supporting national development was introduced to the area. Then, the Royal Forest Agency allowed the Tong Jarlearn Company to take over the legal forestry concession in 1980. The result of forest management under this government policy was that the big valuable trees were cut down for their timber.

After the end of the forestry concession, the village area was allotted to the Karang who were still living in the 712 center. Once again, the national policy of land-use played a role in land management. The area was reformed into places of residence, agricultural cultivation, and adjoining public areas. The central village area was allotted to residential sites. This zone was divided with each family occupying an area of about 1 rai (400 square meters). The area around the residential area was designated for agricultural purposes. Each family was allotted an agricultural area about 20 rais. In 1983, there were about eighty four households in these reformed lands. At the time of the fieldwork, there were 190 households.

Other areas of the village, apart from the reformed zone, were still public areas. Some Karang settled and planted crops in some parts of the public area, such as the area named par lar uoo-noi (PLON). However, in 1984, the government incorporated almost all the public areas, including the PLON area, into the Kaeng Krachan National Park.

At the time of the fieldwork, the Karang were living in two zones: in this study they are called the 'reformed zone' and the 'controlled zone'. The 'reformed zone' is the residential and agricultural area included in the reformed land project, and 'the controlled zone' is an area of Karang living at PLON in the national park area. The land rights in the reformed zone was required by the National Land Allotment Board, in that the official has the rights to own all land in the reformed zone (Official of Rural Development, 1983). In addition, after the Kaeng Krachan National Park was announced, the village area was included in the buffer zone of the park (NRD, 2008). This means that under the national policies of land reform and resource conservation, the Karang were not able to gain land title deeds or land certificates for their living land in either zone. Even though the Constitution of 1997 allowed villagers on the rights to manage their natural resources, the Constitution does not indicate the rights of villagers in sense of land title deed.

This study uses the term 'living land' instead of 'private land' to make clear that the Karang in the study area do not have land ownership rights because they cannot obtain the land title deed for the land which they are living on. The situation of land rights of the Karang is different from villagers in other communities who own 'private land' and have land title deeds.

The upshot of this section is that the origin of the study area has long been modified by human beings. It became a cultural space for 'ethnic minority people', namely the Karang, who sustained themselves by adapting natural resources for their settlement and livelihood. However, these were significantly affected by the successive policies of modernization. First, the policies of national safety and civilization influenced the Karang culture and landscape. During the period of the anti-communism government, the Karang were resettled and modernized by the government agencies who introduced them with modern health services, education, and agricultural plantation methods. Second, the landscape of the study area also had been reformed to support Thai modernization. The official activities on the land for natural resource utilization, such as forestry concession, land zoning for residences, and agricultural cultivation, were driven by modernizing policies. As Zurcher (2006) notes, the clearing of the forest of people in Thailand in 1970s-1980s under the

policy of anti communist insurgents had subsequently supported forest industrialization and modernization.

Third, natural resource conservation can be seen as another example of modernization. The national park is an example of modernized conservation policy that works to change the identity of the Karang. The national park officials attempt to change the Karang via their approach to park management. For example, they want to resettle the Karang from the national park area to designated land elsewhere. This attempt to achieve the national park goals significantly influences the Karang traditional ways of life and their cultures.

The Karang's cultures are important background to understanding their perspectives and practices in natural resource utilization and conservation. The following sections, will present some aspects of Karang cultures including village administration, education, dwelling and traditional practices.

4.4.1 Village administration

Before 1967, the Karang were led by a tribal leader. The tribal leader was someone who could protect their group from wild animals and spirit powers. The tribal leader had magic and power to control other Karang. However, after 1980, they were resettled and a village chief was officially designated by the district official. Later, the village chief was officially elected by the villagers under a policy of democratic decentralization. At the time of data collection, the structure of the village administration system can be described in three parts.

First, the structure of the village administration was part of the national government system of Thailand. A village chief was elected by the villagers, and the village chief put forward two villagers to the district official for appointment as assistants. The responsibilities of the village chief were to control and protect the peace of the villagers, distribute official messages, mandates, regulations and requests. The village chief passed messages through the households by using a loudspeaker broadcast in the village and by conducting monthly meetings through village chief assistants who directly communicate with the villagers. The

responsibilities of the assistants were to assist the village chief in providing materials, facilitating village meetings, and assisting external officials who came to help people in the village.

Second, under the policy of administrative decentralization, this village was governed by the local government, the Tombon (sub-district) Administration Organization of Huoy Sat Yai (TAO of Huoy Sat Yai). At the time of data collection, this village had two representatives on the local government council. These representatives were selected from the villagers every four years. The representatives have responsibilities to be part of decision-making in the local government council. In addition, they put up the village's requests for support from NRM projects, such as water resource development.

Third, at the village level, there was a Prachakoum (a village civil society association). The Prachakoum had the responsibility to set up a forum for discussion of the village's development and administration. In the forum, the village chief, the assistants and local government representatives could consult with other villagers. In addition, they could convey the villager's wishes to support the official projects that will operate in the village.

4.4.2 Dwelling styles: land use

The Karang favour locating their houses near streams because they can readily access water for household use. They can also gather sufficient wild animals and plants for food on the stream and its bank. They use water for bathing, washing clothes, and their livestock. The traditional house building alongside the stream can be seen in the controlled zone in the national park (Figure 4.4).



Figure 4-4 The traditional settlement of the Karang near the water

For the Karang, the distance between their houses and water source is significant in how they locate and structure their settlement. An elder Karang told me that ‘when Karang lived in the forest, their houses are not far from the stream, they can see the water in the stream from their houses’. A traditional indigenous requirement for house location was by using the naked eye to determine the appropriate distance from the stream.

The Karang houses in the study area consisted of three styles; traditional Karang style, rural Thai style and a combination between rural Thai and traditional Karang style. All Karang houses in the controlled zone (PLON) have remained in the traditional Karang style (see Figure 4-5). Each house is made from forest products. The pillars are made from tree trunks, while the floor, wall and ladder are made from bamboo trunks. The roof is covered with palm leaves. Each house consists of one enclosed room for storage of material and a more open area where the floor is divided into zones for cooking, relaxation, sleeping and ritual practices.



Figure 4-5 The traditional house style of the Karang in the Pala uoo noi (PLON) area

The Karang houses in the reformed zone were in the rural Thai style and combined styles (see Figure 4-6). In the rural Thai style, pillars are made from timbers or cement. The floor, wall and ladder are made from timber planks, while the roof is covered with zinc sheets or cement sheets. In the combined style, pillars are made from timber, floor and ladder are made from timber planks, and the walls are made from bamboo trunks. The roof is covered with zinc sheet or palm leaves, In general, a house of both styles consists of one bedroom and one enclosed room for material storage. The floor is divided into zones for cooking, relaxation, and sleeping.

The Karang dwelling reflects their environmental identity and adaptation. Their settlement alongside of the water shows the identity of the Karang as indigenous people who live near the water in the forest. In addition, their traditional house styles using forest materials reflect their adaptation and use of natural resources.



Figure 4-6 The house styles in the reformed zone: the left-hand picture is a Thai rural style, and the right is a combined style

4.4.3 Traditional practices

The Karang have traditional practices related to the use and protection of natural resources. Five Karang traditions will be presented in this section including shifting cultivation or *rai-lu'an-loy'*, *Vii-pla-jun* rite, *Bu-shi-bar* worship, traditional tree for hanging babies' placentas and rituals for selecting house sites

Firstly, shifting cultivation or *rai-lu'an-loy'*, as shown in Figure 4-7, is a traditional practice of the Karang and other hill tribes by using the forest area to farm crops for their livelihood (Luangaramsri, 2001; Walker, 2004; Hares, 2008). Before the national park announcement, the Karang had the procedure of shifting cultivation in each year. It started from land preparation to crop harvest.

The 3rd - 5th lunar months is the dry season without rain. It was suitable to start shifting crop farming. Initially, the Karang looked at the land in the forest for their shifting crop farming. They selected the area of a size proportional to the numbers of labourers and consumers in each family: labourers were the main factor for doing shifting cultivation. They selected a sloped area without water remaining during the rainy season, because the type of rice that the Karang grow does not cope well with standing water. After land selection, they

prepared the land by cutting down the plants on the land. These dried plants were burned in the latter months.



Figure 4-7 The shifting cultivation in the Karang living land in the PLON

During the 6th - 7th lunar months, after plants on the land had been removed, they cleared weeds on the land and prepared crop seeds for planting early in the rainy season. During the 8th - 12th lunar months, in the rainy season, the Karang started cultivating rice and crops in the prepared land. They knew that rice and crops should be cultivated during the rainy season because rice and other crops grew and sprouted well in high humidity or high rainfall. During this period, they knew that after they planted crops in the land, wild animals would come to invade their crops. They had activities to protect crops from wild animals until the crops were harvested. They killed invading animals at the site of shifting cultivation. During the 1st - 2nd lunar months, after the rainy season, rice and crops were harvested by men. Rice seeds were dried, milled, pounded and screened by women to produce rice grain. After the harvest, men had free time from farming. So they went to gather wild produce in the forest.

The Karang argued that the procedure of shifting cultivation was friendly towards natural resources. It was beneficial for trees because after farming finished, plants could be

growing very well and more beautiful than before. In addition, they argued that the shifting cultivation did not destroy the water sources because the land was selected on sloping areas without water remaining during the rainy season.

Before the national park announcement, they were free to farm in any forest area without prohibition; they might use an old place or change to a new place in the forest. After the national park was announced in 1984, shifting cultivation in the forest area had been banned. In the current situation, some Karang families could apply the principles of the shifting cultivation only in their living lands. They applied the shifting cultivation on their limited land by planting rice and other crops for a few years, and then they left the land for a few years, after that they undertook cultivation again.

Secondly, *vii-pla-jun* rite (a lunar respect rite) as shown in Figure 4-8, has been conducted by the Karang following their forefathers under the belief that it could help people have happy and healthy lives. It was conducted for three days in the 2nd and 8th lunar months. On the final day, the Karang tied a sanctified thread around their hands. After that, they brought offerings to *bu-shi-bar* worship. During the rite and fifteen days after that, the Karang avoided eating some kinds of wild animals, such as frog, eel, soft-shell turtle, monitor lizard, and langur, and some kinds of wild plants, such as *phake* geese. After fifteen days, they could again eat such kinds of wildlife.



Figure 4-8 Ritual headmen are conducting the *Vii-pla-jun* rite

Thirdly, *bu-shi-bar* worship was conducted under a big tree in the forest that had been set aside as a specialized place created by the Karang. The Karang interviewees told me that *Bu-shi-bar* worship was conducted on the morning of the final day of the *Vii-pla-jun* (a lunar respect rite). They made a round-shaped plate with a pillar in a similar shape to a round chopping block. They brought the plate and offerings, such as sticky rice, banana and water to the big tree in the forest since they believed that such a tree held the forest spirit. Then they placed the plate on the tree base and put offerings on the plate. Next, they worshiped the forest spirit seeking protection for them when they were working and staying in the forest area. A worship site was constructed using traditional knowledge as a human-exclusion place. A tree for the *bu-chi-bar* worship was significant as a special tree because it had been selected as a big and perennial tree that they believed contained the existing spirit. In addition, natural things, such as land, flora and fauna in the place were linked to the power of the existing spirit. These natural things were avoided by the Karang because they believed that if anyone interfered with them, he/she will become sick or die from the spiritual powers.

Fourthly, a traditional tree for hanging babies' placentas is conducted in a tree as shown in Figure 4-9. The Karang interviewees reported that the indigenous tradition is of hanging babies' placentas on the tree which the Karang have selected for this purpose. After a baby was born, its placenta was put it into a bamboo tube and then the bamboo tube was attached to the trunk of the selected tree. The traditional tree for hanging the babies' placentas is an identity symbol for the Karang. The Karang construct this traditional place as significant under their knowledge and traditional beliefs. The place is constructed as 'a significant medium' in the relationship between the Karang and the supernatural in nature. They believe that children's souls exist in the tree, and those souls are protected by the tree spirit. In addition, it is a symbol of their peace. As a Karang interviewee recounted, one of the reasons of the traditional for hanging the babies' placentas was that 'we believe that if everyone in our group hangs his/her placenta in a tree, we can peacefully live, we are not causing problems within our group'.



Figure 4-9 A big tree for hanging babies' placentas in the forest at the PLON

The traditional tree is prohibited from being logged as mentioned in a statement of a Karang interviewee 'we do not cut the tree, we are afraid to cut it, we keep it for storing our babies' placentas'. Reasons are given to avoid cutting down the tree; because they believe that their children will grow up to be as healthy and strong as the tree, because the souls of the children exist in the tree. In addition, saving the tree avoids any negative effects from the power of the spirit that exists there, and maintains the peaceful relationship within their group.

Lastly, a ritual for selecting house sites is conducted under their beliefs relating to a land spirit, when the Karang build a house as shown in Figure 4-10, they have to consider the spirit in their living land. They have a ritual principle in looking for an appropriate site for house building. This ritual is conducted by elders. In practice, they ask the land spirit for permission to build their house by putting seven rice grains in five sites and covering them with coconut shells in the evening. They uncover them in the morning, and if none of the grains had moved, they could use that site to build their new house. Their father told them

that site was permitted by the land spirit. They could live peacefully without disturbing the animals and the land spirit.



Figure 4-10 A Karang house is being building at the selected site

All in all, the Karang traditional practices are based on their knowledge system for supporting their everyday living and spiritual beliefs. These practices are located in the forest or on their living land. Their traditions relate to the natural resource conservation. However, they were local traditions and were considered unacceptable in the eyes of many scientific conservationists and agencies. Thus, when the national park operations began, these traditional places were overlooked and not included in the national park management regime.

4.5 Summary

The main intention of this chapter has been to present the background to the study area. The background is related to the history of the national park and the changes in human activities on the land and in natural resource use.

Historical changes to separate the area as a communist-free space, and then as a human-free activity space, have occurred under official policy and expert perspectives. At present, land in this community is officially separated into two spaces: space for human dwelling, and for

non-human habitat. Under official management, the Karang live in an officially designated zone, and the wildlife and wild plants are in the national park.

The Kaeng Krachan National Park can be viewed in many dimensions. It is seen as a source of natural integrity, biodiversity and upstream water quality, a grounded node of expert conservation activities that are connected to national and international scales, and as the place of the Karang. So the national park is an arena of complex interactions between humans and nature or the Karang and outside experts. These activities and interactions will be presented in chapter 6.

Chapter 5

Central Conservation Institutions And Approaches

5.1 Introduction

This study focuses on natural resource conservation (NRC) in a local community and the roles of villagers and local experts who practise local natural resource conservation (LNRC). However, the direction of the LNRC is still influenced by central natural resource management and conservation agencies and organizations, such as the national park agency, environmental policy agencies, environmental educational institutions and NGOs. These agencies play several roles in the domain of the NRM/C policy process. So the data analysis of what central interviewees talk about their responsibilities, actions and opinions in contexts of conservation concepts and approaches and local natural resource conservation are presented.

This chapter consists of six main parts. Section 5.2 introduces central agencies. Central agencies in this chapter are focused on the agencies which their staff were selected to be interviewees. The presentation highlights materials of these central agencies in themes of their positions, responsibilities, actions, ideologies and powers in the NRM/C policy process. These materials reflect some differences of those of the central agencies in the domain of the Thai NRM/C policy process.

In section 5.3, four contexts of global natural resource concepts are examined: the national park model, biodiversity, participation, and sustainability. These issues currently influence direction, thinking and operation of the Thai NRM/C (Buergin, 2003; Hares, 2008). The purpose of this section is to reveal perceptions and attitudes of agencies and their staff regarding the above concepts of the global NRM/C.

In section 5.4, the focus is on what the central agency interviewees understand to be local natural resource conservation (LNRC). For a proper understanding of the LNRC, a detailed

analysis is needed of what the interviewees revealed. The data analysis of these interviews has shown that there are three main components of the LNRC which can be discerned in interviewees' framing of understanding of the LNRC. These are: first, **'natural value'** and **'the conservation space'**, both of which focus on national parks; second, **'villagers'** in this chapter referring to people who dwell in and on the boundaries of national parks; third, **'the villagers environmental knowledge'**. Key themes from this discussion are then illustrated by the issue of wild honey harvesting.

In section 5.5, the purpose is to reveal how individual environmental agencies transfer universally accepted concepts and practices into local practice and management norms. The example used to illustrate this is a check dam project in national parks that was organized by the National Park, Wildlife and Plant Conservation Department.

The final section summarises the influence of global concepts on NRC policy and practices and how national park officials struggle with evolving models of conservation based on the global concepts of sustainability and participation rather than orthodox models of tightly bounded national parks.

5.2 Responsibilities and Actions of Central Agencies in the NRM/C Policy Process

The purpose of this section is to illustrate what central agency interviewees said about, and perceived to be, their responsibilities and actions and relationships that influence the direction and patterns of official NRM/C policy process. The NRM/C policy process is a mechanism that created to intervention in the relationships between humans and natural resources in the figurations of a separation of human from natural resources or a non separation of those, instead controlling the degree of human actions within natural resources. It, as show in Figure 5-1, consists of NRM/C policy making and policy implementation. The process is engaged with bureaucratic agencies and related to educational institutions and non government organizations. Both are supported by international institutions.

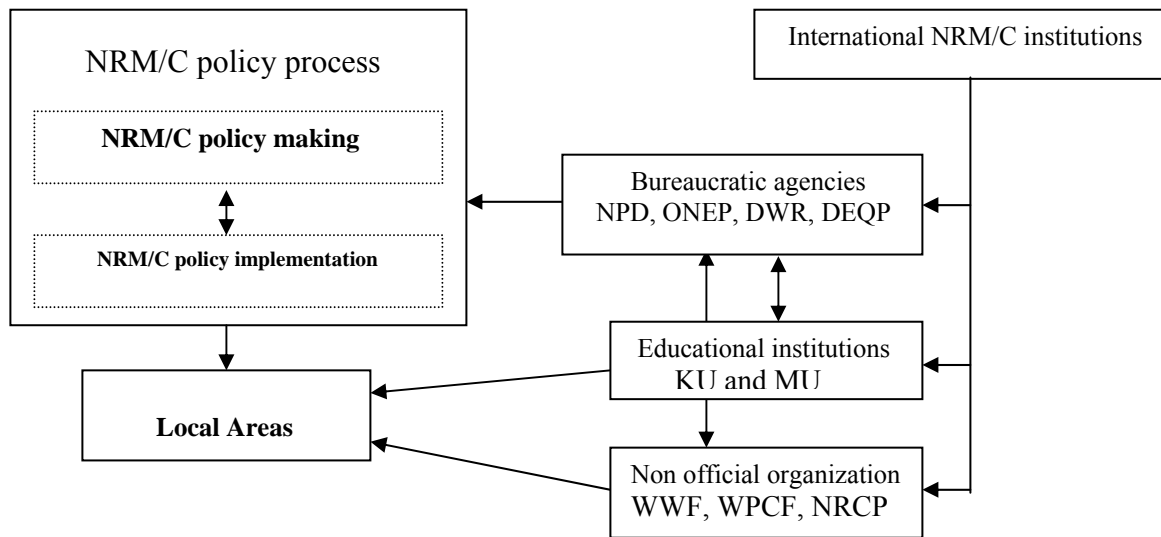


Figure 5-1 A diagram of official NRM/C progress that related to relevant agencies

Bureaucratic agencies are officially assigned as legitimate cornerstones in the process of the Thai NRM/C policy (DEQP, 2005). They, in this study, consist of four official central agencies including the National Park, Wildlife and Plant Conservation Department (NPD), the Office of Natural Resources and Environmental Policy and Planning (ONEP), the Department of Water Resources (DWR) and the Department of Environmental Quality Promotion (DEQP). Currently, both are under the Ministry of Natural Resource and Environment which has responsibilities to the NRM/C based on two conservation concepts (DEQP, 2005).

As mentioned in Chapter 2, the NPD is an oldest bureaucratic agency that was established for managing the protected areas. This agency has been worked based on the orthodox national park model for long time. It is a main responsible agency that is officially assigned to shape and direct the policy and implementation of national parks. While the ONEP, DWR and DEQP were established after the 1990's when to the new conservation concept was introduced in the official Thai NRM/C policy process. They are officially responsible agencies that are legitimately assigned to form and shape the NRM/C policy under the new conservation concept. The NRM/C policies that were produced by these central responsible agencies were transferred to practice via mechanisms of bureaucratic hierarchy (DEQP, 2005).

The process of Thai NRM/C policy making and implementation are not only involved with the official responsible agencies, but also is it engaged with educational institutions and non government organizations. These agencies played certain ways supporting making and implementation of the NRM/C policies, as described in following paragraphs.

The educational institutions in this study consist of the Khonkaen university (KU) and the Mahasarakhum university (MU). The results of data analysis from central agency interviewees indicated that these universities had no direct responsibility in the NRM/C policy process. However, they had actions as ‘supporters’ to the officially responsible agencies for the NRM/C policy making and implementation. This is because they were sources of scientific knowledge and technocratic productions. The environmental curricula that were operated in the universities produce technocrats and approaches to support the official agencies for the NRM/C. In addition, scientific experts from the universities played a role to support the decision making of policy makers in official NRM/C policy process (Keeley and Scoones 2003). An example in this study is that solutions of problems and principles of public participation that were by-product of participatory researches of the KU university and the MU university could offer the decision of the NRM/C policy making. Educational institutions also supported the NRM/C implementation. An official senior director from the ONEP who has responsibilities to formulate national environmental policies and plans and support their implementations stated that the ONEP assigned Songkla university and Taksin university to study the problems and solutions in establishing the policy of Songkla lake basin management. Also, the ONEP employed the KU to evaluate the environmental projects of NGO that supported by the Environmental Fund. In addition, the evidence of the national park interviewee indicated that the NPD employed the Kasertsart university to evaluate effectiveness of the handbook of natural resource conservation guidelines.

Non government organizations (NGOs) which their staff were selected as central interviewees consisted of the World Wildlife Fund for Nature in Thailand (WWF), the Wildlife and Plant Conservation Foundation (WPCF), and the Northern Regional NGO

Group (NRNG). The results of the analysis revealed that they were not legitimate responsible agency in the process of the NRM/C policy. However, they had indirect influence in NRC policy making and implementation. Some of NGO staff were invited to meetings during the stages of drafting policy and policy decision. Some were assigned by officially responsible agencies to be members of officially environmental boards and committees. This is reflected in the statements of a senior staff from the WPCF that pointed to position of its staff on water resource committees at regional and national levels. In addition, some NGO staff who are in close contract with politicians became consultants to certain parties. As the statement of a senior project manager from the NRNG who was a consultant of the government party and organized participatory research development project implies that his knowledge, ideas and perspectives on natural resource problems and solutions supported government decision making in the NRM/C political direction.

next month I will go to meeting with the Prime minister, Taksin. The Prime minister invite us to consult about the way of development of Mae-tang basin. The government has project to develop the Mea-tang basin. I am a representative of the northern NGO group. I will offer certain activities to Prime minister [NRNG interviewee; project manager: 23-05-05]

The international institutions have influenced the direction of the Thai NRM/C policy. As mentioned in Chapter 2, global concepts and approach were distributed to the national members via expert consultants, academic documents (James and Scoones 2003), know-how and funding (Adams 2001). The official agencies, educational institutions, and NGOs in Thailand had connections with global NRM/C institutions. These connections facilitated the distribution of global NRM/C concepts, principles, and ideologies via these agencies. This consequentially influenced to the Thai NRM/C policy progress (Vandergeest, 1996; Wittayapak, 1996; Wong et al., 2007). As discussed in this chapter, the influence of these global approaches could be seen in the discourses and practices of central agency interviewees.

The narratives of the central agency interviewees revealed the role that different forms of global concepts, principles and ideologies play in the domain of the Thai NRM/C. Interviewees from the central agencies used abbreviations, such as PRA (participatory rapid appraisal), the PRD (participatory research development), the A-I-C (appreciation influence control), and the SWOT (strength weakness opportunity and threat), and referred to

international organizations, such as the US-AEP (US and Asia Environmental Partnership) and the RECOFTC (the Regional Community Forestry Training Centre for Asia and Pacific) to describe their NRM/C practices. They also indicated that countries such as France, Spain, Indonesia and the Philippines were the source of the NRM approaches. For example, an interviewee from the WRD referred to western countries that support funding for water resource management, and an interviewee from the DEQP mentioned international organizations which support the Department's projects. These approaches to the NRM/C are embedded in concepts that are scientifically based and have global legitimacy. The use of these abbreviations in everyday speech points to the significance of international approaches embedded in the activities of central agencies and their normalisation in the thinking and practice of central agencies. The role of global concepts in the Thai NRM/C will further present in section 5.3.

Above presentation indicates that the central agencies have distinctive responsibilities and actions in the official NRM/C policy process. The main differences emerged in distinctive responsibilities and actions of the central agencies in the domain of the NRM/C policy process consist of different conservation concepts holding, dissimilar ideologies, unbalanced power, and they differently view the conservation components that consist of place, people and their knowledge in the different ways. Following paragraphs present what central agency interviewees perceive about their conservation concepts in-use, ideology and power in the NRM/C policy process. Section 5.4 will present their different views of the conservation components.

Firstly, the central agencies hold different conservation concepts. As mentioned above, the NPD was assigned as a main official responsible agency that was subjected to the orthodox national park model. On the other hand, the ONEP, DWR, and DEQP were main official responsible agencies that responded the new conservation concept to support the long-term utilization of natural resources. The result revealed that educational institutions had research activities both to support villagers to live in their environment and the NPD for national park management. In addition, the NGOs had activities to support national park and non national park agencies for the NRM/C policy. They also had activities in order to

support villagers to live harmoniously with the ecosystem, and had joining activities with national park officials, such as wildlife researches in national parks supporting national park values and database. Although the educational institutions and the NGOs had activities to support two conservation concepts, the result showed that their own activities under their ways of knowing more focused on the new conservation concept for human sustainable use of natural resources. In this study, the roles and responsibilities of the NPD were laid on the conservation concept of human exclusion, whereas other central agencies worked in the frame of the new conservation concept. Under the different conservation concepts, each agency constructed different natural resource values, events, problems and solutions (Whittaker and Mercer 2004; Hytten and Burns 2007). These led to different cultures, understandings and practices in NRM/C and (Paolisso and Chambers 2001).

Secondary, the central agencies had different ideologies of the NRM/C. The national park official had an ideology to protect strictly natural resources in national parks for the national heritage. The ideology of the NPD was related to the conservation concept of human exclusion. That is a national park interviewee's asserted that for the safe of a broader national interest, national park area should be free from human activities. In contrast, non national park official agencies, educational institutions, and NGOs had an ideology of the NRM/C to use carefully of natural resources for the current and next generations and viewed values of local people as significant in the domain of local NRM. Interviewees of these agencies argued that the values and interests of natural resources should be shared throughout people both local and national levels. The term 'sustainable' was commonly used by these interviewees to indicate their ideology. For example, a senior researcher from the KU who was a project manager of a project to evaluate the environmental projects that are supported by the environmental fund, and the manager of social research for environmental education and management in the local study areas and buffer zone of national parks, pointed out 'sustainable' in local environmental management as significant NRM/C achievement.

local environmental management is not sustainable if we do not create (enhancement of the knowledge and awareness) of the new generation because the new generation will be replacing the current generation in the next few years [KU interviewee; senior researcher:27-05-05]

The different ideologies in the NRM/C process were emerged in dialogs of the central interviewees. An official senior director from the NPD common used the terms of ‘Act’, ‘arrest’ and ‘order’ when he told about the actions of national park official in managing national parks. This reflects the ideology to exclude humans from national park space. The interviewees from the DWR and the ONEP common used the terms ‘integrate’ and ‘sustainable’ to point out their ideology in the NRM/C implementation. This reflects their ideology to work tighter with variously interested groups for long term utilization. A senior staff of the WPCF and a project director from the WWF common used the term ‘the rights of people’ in the NRM/C. This reflects their ideology to support local people in the use of natural resources in and surround their living land. It is notable that these constructed terms reflect two ideology types in the NRM/C implementation: ideology of resource protection as national values, and ideology of resource management for long use of local and national people.

Third, the central agencies had unbalanced powers in the NRM/C policy making and implementation. The official responsible agencies under bureaucratic system had potential because they are supported by the government with regulation, manpower, and budget to carry out the NRM/C policy making and enforce the NRM/C policies to practice via mechanisms of bureaucratic hierarchy. They were seen as powerful, legitimate, potential, and acceptable agencies in the process of the NRM/C policies (DEQP, 2005). However, the official central agencies held the power in the NRM policy process under their legitimate responsibilities. For example, the NPD had power in the national park policy making and implementation, the ONEP had power in the national environmental policy making and implementation, and the DWR had power in the water resource policy making and implementation. Under the bureaucratic support, these official responsible agencies could organize other agencies in the direction of the NRM/C policy making and implementation, in which they want.

On the other hand, educational institutions and NGOs were not strong power and potential in the official NRM/C policy progress. However, they could show their power when they carried out their activities in the local practices. For example, the WWF in Thailand which

a branch of the international WWF can carry out own approaches from international, national to local levels. It could enforce local villagers to support approach's purpose that it wants. This means that powers of educational institutions and NGOs are embedded in activities of local NRM/C. However, their powers in which paralleled the official NRM/C process may be incompatible with the operation of the official NRM/C.

The results of unbalanced power in the NRM/C process are a cause of struggle between central agencies. This study results revealed that the struggle embeds in the value and devalue discourses. These discourse models were passed on through narratives of central agency interviewees. The official senior director who has responsibilities to support the park policy decision making and park implementation constructed a 'value discourse' to promote the orthodox national concept and ideology as legitimate, important and valuable for the NRM/C. In a similar vein, interviewees from non park official and NGOs had a discourse model to promote the new conservation concept as 'democratic'. That is, they painted a picture about their working experiences with villagers in a democratic atmosphere where villagers could show their abilities and knowledge in their involvement with activities of the NRM/C.

Meanwhile, each interviewee has 'devaluation discourse' model to downgrade the other conservation concepts, ideologies and cultures in negative perspectives. The study revealed that the new conservation concept, which was proposed by the WWF to be introduced in national parks was devalued by an interviewee from the NPD as illegitimate, whereas the orthodox conservation concept that had been implemented in national parks was devalued by interviewees of NGOs WWF, WPCF, and MU, as unequal, non democratic and unfair.

The upshot of the discussion in this section is that there were distinctive responsibilities and actions of central agencies in the NRM/C policy process. The official responsible agencies were the legitimate cornerstone agencies to play a key role in national NRM/C policy making and implementation. Educational institutions and NGOs played a role as 'supporter' of the official responsible agencies in the NRM/C process. All relevant agencies

in the official NRM/C policy process connected to the international instructions. The global concepts, ideas, principles and cultures on the NRM/C, therefore, flow via these agencies. Under their distinctive responsibilities and actions, the central agencies had different concepts in-use and dissimilar ideologies in the NRM/C policy process. The NPD held the orthodox national park model, whereas other official responsible agencies, educational institutions and NGOs held the new conservation concept. Because of their different conservation concept holding, they had different ideologies of the NRM/C. The NPD still held the conservation ideology to protect natural resources as national value, whereas the non national park agencies held the ideology of the management of natural resources for long use of local and national people. This tends to different cultures and incompatible perspectives in the NRM/C.

Regarding their different responsibilities and roles and dissimilar ideology in the NRM/C policy process, they had unbalanced power. Official agencies had more power to carry out NRM/C policy making and implementation under bureaucratic system. Educational institutions and NGOs were less power to create the official NRM/C policy process but they played a role as advocate and opponent the official policy. In addition, the different concepts in-use reflects the struggle between different concept agencies. This struggle is revealed in the value and the devalue discourse models that produced by national park interviewee and non national park interviewees. The matters based on their different concepts in-use, dissimilar ideologies and unbalanced powers are further described in the following sections.

5.3 Global Concepts and Thai Central Natural Resource Agencies

In this section, four dominant global concepts are presented to show how they have influenced Thai natural resource institutions. The analysis concerns what central agency interviewees said about, and perceived to be, the contexts of national park including its policies towards biodiversity, sustainability, and participation. The results of the analysis reveal the role of these global concepts in these agencies. The following discussions will

present individual views about these global issues. These perspectives are not isolated from the agency's practices, because they are all now accepted and mutually used in the policies of interviewee's agencies, but their separation from discussion on activities will facilitate explanation of their strengths and weaknesses in each agency.

5.3.1 National park model

As mentioned in chapter 4, the national park concept was introduced into the Thai NRC and bureaucratic system in the 1960s. Central national park agency and its bureaucratic hierarchy have been expanded, and rebuilt over time to enhance national park management. According to an official senior director of a central park agency under the NPD who has responsibilities to support the park policy decision making and park management argued strongly for the importance of the national park model for protecting natural resource values. This belief of the national park's policies was shown in his statements. The statement below is an example.

Because the conservation of biological and ecological diversity of nature and resources are necessary and important, the National Park, Wildlife and Plant Conservation Department established many national parks covering every part of our country [NPD interviewee, an official senior director: 25-05-05]

In addition, he asserted that national park agencies and staff are 'strong conservationists'. By this he meant that the officials' actions are lawful, and embody greater conservation awareness than the actions of other groups of people.

In the real world, national park officials are strong conservationists, they are a balance for other groups. National park officials and Act are a balance for these groups in resource utility, and control community's exploitation of natural resources. This is reality [NPD interviewee, official senior director: 25-05-05]

According to statements of an official senior director from the NPD, the rationale of national park agencies was established in order to serve the nation's purposes through valuing ecology. The establishment of many national parks also reflects the importance attached to national park areas on a national level. This is supported by Dearen, et al. (1991, p197) who argue that 'national parks (of Thailand) play a valuable role in trying to protect landscapes and ecosystems of national and international significance from destructive human activities'.

The official senior director supported the national park model as the most suitable one for natural resource conservation. This pointed to struggles between agencies as the national park authority claims its right to dominance in conservation and its authority as the primary knowledge owner.

However, the national park model was criticised by other interviewees as an obstacle to indigenous people using natural resources in national parks. For example, a senior staff of the WPCF who was a member of the Human Rights Committee under the Prime Minister's Office, and a project manager of a research to collect the samples of wild plant species and a project to survey the life way of wild elephants in national parks alleged national park officials were being antagonistic to the Karang who operated shifting cultivation in national parks.

In the meeting they considered regulation to control shifting cultivation because national park officials do not allow areas in national parks for the Karang to do their farming. Officials do not accept shifting cultivation of villagers [WPCF interviewee; senior staff: 2-06-05]

To sum up, the global concept of national park model was different values emerged in the interviewees' discourses. It is viewed by the national park interviewee as significant for protecting national values. However, in the eye of NGO interviewee, it is an undesirable model for support human values and rights regarding natural resource utilization. These different perspectives led to different understandings and practices on the values of park resources and indigenous people in national parks.

5.3.2 Sustainability

Sustainability is a global concept originally enacted in Agenda 21. It was incorporated into Thai NRM in 1992, after Thailand, as a UN member, had signed the Agenda 21 agreement. Acceptance of the Agenda 21 compelled Thailand to reformulate its approach to the NRM/C system (OEPP, 1997).

The results of the analysis indicated that the term ‘sustainability’ is commonly expressed by central agency interviewees in both contrasting and consistent ways. A senior researcher from the Khonkaen University who has a research of environmental education and management at buffer zones of national parks used ‘sustainable management’ connecting ‘survive’ to argue that villagers needed to use natural resources in national parks for sustenance and could not be excluded from the ecosystem. Her argument was that the main goal of sustainability has to be long-term villager survival. In addition, she claimed that the achievement of natural resource conservation in national parks should be conducted simultaneously with the villagers’ use of natural resources.

Viewing, the relation between villagers and natural resources under the assumption that natural resources can be safe if villagers can survive because their way of life is dependent upon the environment. If they are banned from gathering wild products, there is no means of sustenance, they cannot survive. So how does environmentally sustainable management include the surviving villagers? If we have to think of sustainability, it needs to keep villagers surviving [KU interviewee; senior researcher: 27-05-05]

For an official senior director from the DEQP, who a official pilot project manager to support public participation in balanced utilization of natural resources and biological diversity, sustainability was introduced as an alternative approach to the NRM/C. In her dialogs, a sustainability is a key meaning in the development project that was established in the indigenous village. Its meaning became an aim of the project to help the villagers in the buffer zones of national parks to improve their way of life by simultaneous sustainable utilization and conservation of natural resources.

However, an official senior director from the NPD asserted that a sustainability approach in national parks could not support conservation because people could not live harmoniously with natural resources. He argued that sustainability in practice was unlikely to be consistent with park management goals.

An approach of sustainable management that allows villagers to gather wild produce in national parks is impossible. It cannot be done. To work, there needs to be a study, what is the state of the resource, how can it provide for gathering. Such a study can provide rationale consistent with conservation to set up an agreement. Such a process and activities cannot be set in place quickly [NPD interviewee; official senior director: 25-05-05]

The upshot in this section is that the term of ‘sustainability’ is common appeared in the research interviews. Almost interviewee acknowledged that it is an approach for helping

local villagers for long term use of their natural resources. However, for the national park interviewee perspective, it is inappropriate in the park management.

5.3.3 Biodiversity

‘Biodiversity’ widely appeared in the context of global natural resource conservation from 1992. The maintenance of biodiversity is to support the sustainable conservation and utilization of natural resources, rather than having a single focus on conservation. The issues that relate to biodiversity and biodiversity conservation are embedded in statements of the central interviewees. In the statement in section 5.2.1, an official senior director from the NPD who has responsibilities to support the park management used the words ‘biology’ and ‘ecology’ instead of ‘biodiversity’ to point out the main part of the department’s responsibility and that it is significant, important, and valuable for the nation. In addition, he argued that conservation of biology and ecology has been the rationale for establishing national park agencies and areas. Moreover, the depletion of ecology related to deforestation that was associated with villagers and their cultures.

Conflicts arise from the way of life and culture of each community. Certain communities deforest until all the hills are cleared. They invade forest [NPD interviewee; official senior director: 25-05-05]

In the narrative of the official senior director from the NPD about barrier of the park management, social, economic and political factors were linked as having an impact on biodiversity values. In his view, when humans are connected with the natural environment, such as the forest in national parks, then social issues, such as commerce, politics and human presence have a significant and destructive impact on the ecosystems. In his perspective, ecology conservation requires the separation between humans and natural resources. His statement below reflects his strong attitude to retaining the traditional management of national parks that is free from human activities.

Several factors support invaders, capitalism and poverty. Some politicians back up villagers, and they support villagers to invade national park area [NPD interviewee; official senior director: 25-05-05]

Other official interviewees believed that the official agencies had ownership over biodiversity, so the government had created particular places for biodiversity, and empowered the responsible official agency to protect biodiversity in those designated

places. For example, an official senior director from the ONEP argued for the creation of space for concentrated conservation of biodiversity. In this sense, natural place is separated. some of the place were designed for biodiversity conservation without human activities, and other pieces were allowed for human living.

The management of natural resources under the watershed concept classifies land-use in several classes. The watershed class A is a core of biodiversity conservation, villagers are not allowed to do any activity. In class C people can own the land [ONEP interviewee; official senior director: 18-05-05]

Similarly, an official senior director from the DWR who has responsibilities to support the water management plans in the watershed basins argued that biodiversity existed in national parks, and national park officials had the responsibility to protect it from development activities. He explained that a project under the support of the Department of Water Resource could not operate in national parks because it is a protected area of biodiversity and ecosystems.

In the management system at the moment, ministry is divided into 3-4 patterns; they are called forest eco-system, agricultural eco-system, city eco-system and coastal eco-system. The upstream area is an eco-biodiversity conservation area under the responsibility of national parks. No water development project can operate in the upstream area; national parks agency does not allow it [DWR interviewee; official senior director: 16-05-05]

For an official senior director from the DEQP who a official pilot project manager to support public participation in balanced utilization of biological diversity and natural resources, the integrity of natural resources was a problem between villagers and officials. However, she agreed that some of the value of the natural resource should be provided for human beings. This sense implied that value of nature was not higher than that of humans.

The conflict between forest officers and villagers is because foresters do not allow people use of the protected area. They keep the area for the integrity of natural resources. The conflict can be solved if there is a middleman to talk about what can be used or not used, and how to use areas without impact on the integrity of natural resources [DEQP interviewee; official senior director: 24-05-05]

In the context of biodiversity, a senior staff of the WPCF, who conducted a research to collect the simples of wild plant species, and a project to survey the life way of wild elephants in national parks pointed out how wild elephants and orchids connected biodiversity to endangered species, scientific knowledge and economic issues. According to his perspective on biodiversity, biodiversity in terms of endangered species was depleted and even destroyed because of the demand by traders from the city for items from the forest and other protected places.

Our team stayed about a week with villagers to collect plant samples such as some orchids and wild roses in the forest. Some kinds of these plants were discovered at Poo-plea, now such orchids are brought to sell in Bangkok [WPCF interviewee; senior staff: 2-06-05]

Our study is about elephant life style, what food they eat , where they find food and drinking water, the nature of their walking, their routes, how they teach their children. The elephants walk in the same area as their forerunners, when villagers planted pineapples across this way, they eat pineapples because they do not know whose they are, they think here is forest in their walkway. We suggest that these areas should be returned to forest as before [WPCF interviewee; senior staff: 2-06-05]

However, a project manager from the NRNG who operated participatory projects for local community development at the Ping river basin and the Jang river basin, reported that ecological knowledge about biodiversity was traditionally held by the village elders. He said that real knowledge about biodiversity was to be found by surveying the local area with the assistance of the villagers as reflected in his statement below.

I invite elders to walk the survey in an area, to survey the ecology. I ask villagers about the kinds of plants and animals in the area. This is a way to survey real things about biodiversity [NRNG interviewee; project manager: 23-05-05]

Another perspective came from a senior research and director from the MU. He did not talk directly about meanings of biodiversity. Rather, he pointed out a problem between protectors and users of the forest. His narrative reflected the connection between villagers, their livelihood, forest, environmental knowledge and economy. A forester linked the forest with the weather to argue that villagers should avoid deforestation, whereas, villagers used the forest to support their basic needs and argued for the need to cut down trees. This narrative implies that depletion of biodiversity does not relate to environmental knowledge.

During the meeting, foresters explained the impact of deforestation on flooding, and drought. Villagers said that you [forest officers] told us about the benefit of forest, we understand and agree that the forest provides fertilizer, soil, that the forests give rain, but I tell you that we have no land; we need to cut trees and clear land, and find out what things in the forest we can eat. We do not have a salary, like you, but we have to eat as you do. After I heard what the villagers said, I think we have to learn more about the causes of deforestation [MU interviewee; researcher and director: 30-05-05]

The summation of this discussion is that biodiversity, as embedded in the statements of several central agency interviewees, has a variety of meanings, functions and connections. It refers to ecosystems that have to be protected under national park principles or, alternatively, to natural resources that should be managed through the concept of sustainability. It functions as a national symbol under the control of bureaucratic management, a source of water, a place for endangered species, and a focal point of social

conflict. Biodiversity is part of a complex relationship between nature, such as forest and rain, and human culture, basic needs, poverty, and policy.

In addition, biodiversity conservation was represented differently in the central conservation agencies. While conservation of biodiversity by means of ecological conservation was strongly significant in the perspectives of the national park interviewee, for other agencies this type of conservation was not of primary concern. This is because they understood that biodiversity conservation in official conservation areas was responsibly managed by national parks or other designated conservation agencies. However, some interviewees argued that the pure conservation of biodiversity was not essential but, rather, that some biodiversity should be made available to humans.

5.3.4 Participation

Participation is a global concept for a more democratic NRM/C and a mechanism to achieve NRM/C goals defined through the application of the concepts of biodiversity and sustainability. This global concept first appeared in the Thai NRM/C under the term ‘integration’ in the Thai policy in the Sixth National Social and Economic Development Plan (1987-1991). The term ‘participation’ emerged in the Seventh Plan (1992-1996) (NESDB, 2008). This is confirmed by an official senior director from the ONEP.

Participation has been initially addressed in the policy of environmental management in the integrated plan of the Songkla water basin since the Sixth Plan, it was not called public participation, and it was called integration. The term participation was in the Seventh Plan and then it has been commonly used in the Eighth, Ninth and the Tenth Plans. Participation has been used in each plan with different purpose. For example, participation in the Ninth Plan emphasised sustainable development under the theory of economic sufficiency [ONEP interviewee; official senior director: 18-05-05]

Participation became a key concept, and it was widely addressed in Thai NRM/C after the Thai Constitution of 1997 was promulgated. The significant aim of participation, as it appears in the Constitution, is to support local villagers to manage their local natural resources. This is asserted by a senior staff from the WPCF .

The principle of participation follows the constitution of 2540 B.P. It is used to support villagers to manage natural resources in their living areas [WPCF interviewee; senior staff: 2-06-05]

As mentioned in Chapter 2, policy of public participation included in the Thai Constitution was imposed upon each official agency. They were required to suitably adapt it to their responsibilities and practices. Currently, there are different definitions and forms of participation. In the statements of interviewees below, it is believed that the contexts of participation related to the NRM/C. Meanings and forms of participation vary. Some interviewees argued that the meanings and roles of participation have changed according to government policy. The statements below are examples.

The term of participation is plentifully used but its real meaning is unclear. I do not want to use the term participation, but I want to use the role of villager in environmental management [NRNG interviewee; project manager: 23-05-05]

Participation in Thailand is used in many forms. For example, a meeting is a form of participation. It has to determine which form of participation should be used for any project and which projects should be using various forms of participation [MU interviewee; researcher and director: 30-05-05]

Participation is related to the constitution of 2540 B.E.; if the constitution is changed, participation may change [ONEP interviewee; official senior director: 18-05-05]

The forms of participation that have been used in the study area by the central agency interviewees are shown in Table 5-1.

Agency	Participation model	Principle for people to participate in the model
NPD	A check dam project in national parks	<ul style="list-style-type: none"> • Set up the mode of participation for people to help activities of national park officials for protecting and maintaining natural resources • Invited villagers to participate in activities of the project
	National park committees	<ul style="list-style-type: none"> • Selected representatives from relevant stakeholders to be members of the committee for supporting NRC in national parks
OENP	A forum for assembling ideas on integrated planning	<ul style="list-style-type: none"> • Invited people to share information, discussion and suggestion in the stages of environmental policy, planning and management • Allowed people to offer their ideas for official management
	Integrated water basin committee	<ul style="list-style-type: none"> • Meeting committee members to share information and ideas for decision making about the water resources policies and plans
DEQP	A cooperative pilot project in the indigenous village at national park buffer zone	<ul style="list-style-type: none"> • Facilitated villagers to improve their life quality and conservation awareness
DWR	Meeting to discuss a project studied by consultants	<ul style="list-style-type: none"> • Invite people and other stakeholders to a meeting to acknowledge and give suggestions on the plan arising from the study of the consultant
	Water resource committee	<ul style="list-style-type: none"> • Selected members of the water resource committee from villagers and relevant agencies • Meeting the Committee to consider and decide on plans and activities that relevant agencies suggest, as well as any water resource problems
WWF	Appreciation - influence-control (A-I-C approach)	<ul style="list-style-type: none"> • Invited people to join in the process of AIC conducted by project coordinators. The process allows people to share knowledge, ideas and perspectives with others
KU	Participatory rural appraisal (PRA)	<ul style="list-style-type: none"> • Invited villagers to give data and information on research data collection • Invited villagers to a meeting to acknowledge the results of the study and give feedback on the study
MU	Local participatory research (LPR)	<ul style="list-style-type: none"> • Invited villager experts to demonstrate how they use their knowledge for creating a fish conservation area
NNGO	Participatory Research Development (PRD)	<ul style="list-style-type: none"> • Invited villagers to collect data in the villages and help evaluate and interpret data
	Check dam project	<ul style="list-style-type: none"> • Invited villagers to construct the check dam
WAPE	Participatory research (PR)	<ul style="list-style-type: none"> • Invited villagers to collect samples of plants

Table 5-1 Forms of participation conducted by central official agencies, NGOs and universities

It is notable that the forms of participation in Table 5.1 are largely characterised in a manner of invitations of villagers to join in expert activities to in a manner of obtain information from the villagers in order to use in the expert activities. Participation had different but sometimes similar meanings. For an official senior director from the central park agency under the NPD who has responsibilities to support the park management, the participation in government policy was seen as a means to educate the villagers to

understand natural resource conservation and practice under conservation laws. Although he agreed the participatory concept encouraged democratic thinking, he claimed that practice under the Act for protecting natural resources in national parks was more important than practice under the participatory policy. In addition, he said that participation was ‘new’ for national park officials. The officials were not familiar in joining with villagers in matters of participation. His agency had to create guidelines on participation for national park officials working with villagers. In this sense, the central responsible park agency has not yet taken the participatory approach as important policy in that it needs to transfer to the official park practitioners.

The principle of participation follows the constitution of 2540 B.P. that wants to support villagers. Participation was included in the policy of the previous government, it was in the agenda of national administration, and then it was transferred to the policy of the Ministry of Natural Resources and Environment and the National Park Department. The department has to apply it in the strategy of natural resource protection. I think the principle is good in democracy, because several ideas are better than a single idea and we have to go in this way. But, the National Park Act has to be enforced; everyone needs to be under this Act. ... In practice, the obstruction and problems of participation are that the officials have to change their roles from directing to co-operation with villagers. The officials have a great need to understand participation [NPD interviewee; official senior director: 25-05-05]

From the different perspectives of the NGO and research interviewees, participation was seen as a better way of NRC that could enable villagers to participate in the decision-making on NRM/C in a democratic atmosphere. The statements below are examples.

To point out to them the trends of changes and how to encourage an elder to talk about the historical change of natural resources in the village, to draw a picture of the past of the community and compare with current community picture. This can support villagers to know what is a problem or what it is not a problem and help them to draw the future community picture for what it will be like in the next 3, 5 and 20 years [WWF interviewee; project director: 31-05-05]

Debate is the main way for finding problems and solutions. During our meeting, villagers debate together until they get the solution. The debate is a democracy because agreement or disagreement of the debated issue is dependent upon reasons of individuals. Finally, one reason is accepted and other reasons are not accepted. However, although other options are given up, they are not seen negatively [NRNG interviewee; project manager: 23-05-05]

As this research focused on national park management, participation in the management of national parks should be addressed. It is notable that participation in the park management attracts opposing views from an official senior director from the NPD and a project director from the WWF. The official senior director disagreed with having a third party playing a

mediator between national park officials and villagers in the participation process. He argued that participation should be directly between officials and villagers.

There is no need, because if the middleman is no good, villagers are separate and opposite to the officials. There should be collaboration between officials and villagers, if the situation can get to this point; it is beautiful [NPD interviewee; official senior director: 25-05-05]

However, a project director from the WWF argued that the mediator should play a role in the process of participation in the park management. His focus in the statement below reflects the argument of participation conducted by a NGO middleman that he/she can assist in the success of participation.

In my opinion, the form of co-operation between agencies at a practical level in national parks should be operated by a middleman. I give an example, if any national park has an NGO who worked and emphasized the matters of participation or co-operation, the real participation forums will happen. These persons can facilitate a good relationship between villagers and national park foresters [WWF interviewee; project director: 31-05-05]

In addition, the project director criticised the official participation in the management of national parks as being unsuitable for the villagers. Such participation was criticised as ‘imaginary participation’, because it was a theory in the official documents of the national park agencies following policy requirements and the Constitution, but never used in practice. Another criticism was that the participatory concept held by national park officials was not sincere. As the statement below shows, the term ‘transparency’ was tied to a significant problem in the participatory concept held by the national park agencies, as if the officials were not sincere about the villagers participating in the management of national parks, because they did not want people to know about corruption involving national park officials.

In the view of the national park department, officials do not want public participation because it is related to transparency. They do not allow villagers to be on the national park board. However, but they cannot reject the pressure of the participation policy. Now all media, politicians and people are aware and agree about the participation matters [WWF interviewee; project director: 31-05-05]

All in all, in the theme of participation, almost all interviewees agreed about using participation for NRM/C. However, an official senior director from the NPD was unappreciative of introducing participation in national park management.

In conclusion, this section has reviewed the four themes relating to the global NRM/C concepts, including national park model, biodiversity, participation, and sustainability that

are embedded in the Thai central natural resource agencies. The perceptions and attitudes of interviewees on these global NRM/C concepts vary. In the perspective of the national park interviewee, biodiversity in terms of ecology and the national park model were more useful concepts for natural resource conservation, whereas sustainability and participation concepts were unimportant, and indeed a problem. He viewed participation as affecting conservation in national parks. However, he understood that participation was a political reality and was therefore only accepted and included in the policy of national park department. He saw it, however, as a new approach that would have to be modified for use by national park officials in park management. In contrast, other interviewees saw the sustainability concept as important for the NRM/C. They viewed central management for sustainability as more important than as encompassing biodiversity conservation. They also believed that participation is the favoured mechanism for working with villagers and other agencies and perceived that it strongly supports NRM/C.

5.4 Different Perceptions

As this study focuses on local natural conservation in an area designed for natural resource protection, the perceptions of the central agency interviewees on components related to local natural resource conservation, such as natural values, local places, villagers and their knowledge should be explored. The purpose of this section is to reveal the perspectives of different agencies in the areas of natural value, conservation place, villagers, and villagers' knowledge. The perspectives reveal similar and different knowledge, perspectives and attitudes of central agencies in their components of local natural resource conservation.

5.4.1 National parks: space for nature or human beings?

This subsection presents the examination of what central agency interviewees know about conservation areas. The focus is on functions of national parks that appear in the dialogues of the central interviewees. In this section, three functions of national parks are presented,

including place of natural resource values, place of villager livelihoods, and place of official power.

An official senior director from the NPD who has long worked in the park policy and management has strong views about maintaining national park areas as a place for protecting natural resources and their values in support of national and global purposes. In the statement below, he referred to the National Park Act, as if it is a mechanism of the state power to require the functions of national parks. In this sense, national park area is determined by the Act as a safe-place for wildlife and wild plant habitat, but it is not a place for villagers' activities.

Under the National Park Act, villagers cannot dwell in national parks; they can not use things in national parks for their interests [NPD interviewee; official senior director: 25-05-05]

Moreover, he viewed national park area containing natural resources and their values as connected with the national estate and world heritage, as his statement below shows.

Things in national parks are the national estate. We need to establish national parks to protect them to be the national value... because some natural resources are international values. For example, a palm tree species in the Toung Yai Narasouy National Park is a unique one in the world. Its habitat is only in this park. Then it became one of many natural values that upholds the Toung Yai Narasouy National Park to be world natural heritage [NPD interviewee; official senior director: 25-05-05]

In addition, in his narrative of the problem of the park management, he pointed out that villagers destroy the forest in national parks. This reflects his attitude that villagers are a possible threat to natural resource values in national parks.

The problem in the national park management is because villagers, for as long as my experience of work in park policy and management for more than 30 years, I think rural villagers view the forest area as agricultural area. They invade the forest, clear forest area for their crop farming. Then they have a conflict with forest officers about the boundary between their land and national parks [NPD interviewee; official senior director: 25-05-05]

However, interviewees of non national park agencies saw that national park area was a place for both villagers and nature. They claimed that the park areas did not only function as conservation value, but also as a source of human livelihoods. This perspective appeared in the non national park interviewees' statements. For example, an official senior director from the DEQP stated that the department had a project to help indigenous people who live

in the buffer zone of national parks to develop their business of gathering and selling wild products. This activity of the department implies that indirect support is given to villagers to use natural resources from national park for their sustenance.

A senior researcher from the Khonkaen University argued that natural resources provided the basic needs of human life. She had a compassionate discourse about the villagers, in which natural resources were necessary for them. The terms ‘people need to use’ and ‘have to use’ represented an ‘advocacy’ stance illustrating that people could not be excluded from the ecosystem.

People are utilizing natural resources because they have to use them for food, habitat, clothing, and medicine. Their use of natural resources is not right or wrong but they do it under their culture for supporting their four basic needs [KU interviewee; senior researcher: 27-05-05]

A senior staff from the WPCF who has worked with indigenous people in his researches in the national park, argued that the indigenous people should use natural resources in national parks. He gave an example of an eco-tour project that was conducted by villagers in national parks.

The village chief has home stays for tourists living in the village. If some tourists want to go rafting, the villagers take them and rafts on the back of elephants upstream and float these tourists along the river downstream and end at the village [WPCF interviewee; senior staff: 2-06-05]

In the perspective of national parks as a place of official power, project director from the WWF in Thailand argued that national parks were the ‘dark side’ of NRC. His view was that national parks were places of official power and further was a source of corruption in the bureaucratic system. The statement below indicates this:

I can say that the corruption in this department (national park department) is very high. Clearly, the director general in the previous government paid 30 million Bahts to the minister to buying the director general position. Where did 30 millions come from? All were supported from national parks. The officials worked in national park agencies had tactics to corrupt, for example if they got budget of about 10 millions from the central agency, they will use 3 millions for supporting the director general [WWF interviewee; project director: 31-05-05]

For an official senior director from the WRD, national parks were controlled through the power of national park officials. This is reflected in the statement below. He stated that a water development project cannot operate in national parks.

Now we do not do projects in upstream area, we cannot do them, because the upstream area is designed as a conservation forest area, it is taken care of by national parks. The

national park official marks the boundary and manages such forest areas [DWR interviewee; official senior director: 16-05-05]

All in all, the function of national parks in the perspectives of central agency interviewees could not be defined based on the IUCN definition. In fact, national park place has a different meaning for different groups. Almost all interviewees similarly understood that national parks were not private property. An official senior director from the NPD understood national parks to be a place for supporting natural values for national and world estates. His view was that natural values should be protected from villager activities because villagers are unaware of the role of national parks in conservation. In contrast, researcher, NGO, and senior officers understood national parks as a place that can accommodate national park activities and the villagers' activities. Some of them argued that the villagers should gain benefits from the park resources.

5.4.2 Villagers in and near national parks

In this section, the different perceptions of the central agency interviewees about characteristics of villagers who live in and at the fringe of national parks are presented. The different interviewees' perceptions of villagers in national parks are presented in this section as a brief view that villagers are uncooperative but otherwise benign. The following paragraphs are typical.

According to an official senior director from the central park agency in the NPD who has responsibilities to support the park management, the villagers were an undesirable social group. Several terms in his statement, such as 'squatter', 'understanding', and 'trespass' revealed his understanding and feelings towards the villagers.

Villagers in national parks are squatters. They have to accept the Act, and stop extending their activities...now, they are not stable, some of them still trespass [NPD interviewee; official senior director: 25-05-05]

In addition, he argued that the villagers are ignorant of natural resource conservation. The statement below illustrates this. The phrase 'have to understand' was used to point out that

villagers did not have much environmental knowledge and they were also a barrier to the park management.

Villagers want to live within the forest, they have to understand about what should be done or not. They have to think about how they can protect the forest [NPD interviewee; official senior director: 25-05-05]

Moreover, he argued that the villagers found it difficult to develop new ideas and it had taken a long time for the villagers to achieve success in enhancing their knowledge. The statement below is typical.

Development of villager's understanding is continuously adapting, it is not immediate, if it is not successful in this generation, it may succeed in the next generation [NPD interviewee; official senior director: 25-05-05]

The perspective of the official senior director from the NPD about the villagers was that the villagers were 'destroyers' of natural resources. As shown in the statement below, he held a strong negative perspective of the villagers, casting them as ignorant exploiters who are only gradually learning how to treat nature.

If villagers in national park area understand, [how to protect wildlife], cooperate with officials, and they already stop trespassing, in the future the national park department will keep some areas in national parks for their living and looking after, and the Act will be modified to allow them to live sufficiently with nature in the area. But now, entirely, they exploit natural resources [NPD interviewee; official senior director: 25-05-05]

In addition, the statement below shows that the villagers acted in opposition to national park officials who were presumed to be conservationists.

This side [national park officials] wants to protect and to conserve natural resources, but that side [villagers] want to get the benefit from the forest, they want to own the resources [NPD interviewee; official senior director: 25-05-05]

In summary, in the perspective of a national park interviewee, the villagers were viewed as an undesirable social group to have living in national parks because they were labelled as people who interfered with natural resources and were seen as people who used the park resources illegally and without regard for natural resource values.

Almost all central agency interviewees from government agencies gave negative viewpoints of the villagers as being 'ignorant of natural resource conservation'. In asserting villagers' ignorance of natural resource conservation, interviewees pictured the villagers in terms of not being able to 'understand'. This term commonly appeared in the interviewees'

narratives about the involvement of local people in resource conservation, as if villagers were ignorant about conservation, environmental problems and conservation implementation.

In addition, the villagers were perceived as underdeveloped and lacking in scientifically based understanding and knowledge of natural resources. However, as Campbell (2005) argues, such rational arguments are based on the scientific methods constructed by expert authorities to direct villagers to their own conservation responsibilities. Scientific experts identify villagers as a cause of natural resource problems, labelling the villagers ‘ignorant’ about natural resource conservation. These perspectives on the villagers reflect the attitudes of central agency interviewees. This attitude about the villagers shapes the direction of the NRM/C policy and practice.

As environmental knowledge plays a significant role in conservation direction, the following section will present the characteristics of such knowledge based on the perspectives of the central interviewees.

5.4.3 Villagers’ knowledge

Actually, our forerunners acted on the environment under the local Thai knowledge and followed the Thai culture. They used natural resources as sustainable and they conserved some natural resources under their cultural beliefs and everyday practice [CNCRC interviewee; independent environmental expert:20-05-05]

The issues of villagers’ knowledge are paramount in the interview contexts that are portrayed in the perspectives and understanding of the central interviewees. However, the interviewees had different perspectives on villagers’ knowledge. In this section, the focus is on the characteristics of villagers’ knowledge from three aspects: folklore, custom, and local knowledge.

Firstly, villagers’ knowledge is based on folklore, which means it is not accepted by experts as applicable in modern conservation activities. This was reflected in the discussion with the central agency interviewees. As the quote below indicates, an independent environmental expert who was an expert in the Committee of Natural and Cultural

Resource Conservation under the National Environmental Broad, and has long experienced working as consultant in the formulation of the national environmental policy and master plan argued that villagers' knowledge was not collected in concrete form and it was not suitable to use as a base to define the issues of the NRM/C.

The traditional Thai knowledge has not been made in a concrete form as current scientific knowledge is. So it is not used to present, promote or define the matters of conservation, protection, and sustainability [CNCRC interviewee; independent environmental expert: 20-05-05]

In this view, villagers' knowledge was not 'suitable' for supporting the conservation and such knowledge could not be readily applied in the park conservation. This is reflected in the narrative of an official senior director of the NPD who asserted that knowledge of villagers needs to be verified before applying it in the park management. Furthermore, he claimed that such knowledge needed to be screened and accepted by the National Park Board.

I think that in some matters local knowledge can support conservation. For example, some traditional practices of hunting wild animals can be adjusted during the wild animal mating season. Moreover, there has to be agreement with community leaders or elders to enforce some practices such as not using fire to gather honey, not staying in the forest, entering and leaving national park area as required. These requirements can play a role if enforced by community leaders. This can be accepted if these practices are consistent with reasons which support conservation [NPD interviewee; official senior director: 25-05-05]

Clearly, villagers' knowledge is seen as subservient to official knowledge and policy, and is only accepted where management officials see it as consistent with their thinking. They did not readily accept or allow villagers' knowledge as being valid or useful for the park management or other NRM/C areas.

If villagers bring their ideas to join in the expert activities, they have to verify that their ideas are more correct and useful than the official thinking; if not, they are not accepted by officials and NGOs [CNCRC interviewee; independent environmental expert: 20-05-05]

Secondly, the central agency interviewees argued that the knowledge of the villagers is not officially acceptable. There were several reasons for this stance. One reason is in fact that central experts overlooked both the importance of villagers' knowledge and their intelligence.

Officials have never seen the side of indigenous intelligence because they use development to improve indigenous villagers. So what is development? What is civilization that is suitable for indigenous people who live in the forest or the hill? [CRCC interviewee; independent environmental expert: 3-06-05]

In addition, an independent environmental expert who was an expert of the Committee for Rivers, Canal Conservation, under the National Environmental Board, and was a consultant to suggest the cultural resource policy that cooperated in the national environmental policy and master plan, argued that the NRM/C planners did not pay attention to villagers' knowledge when drafting their planning documents. That is, officials employed consultants to make a plan but the consultants did not pay attention to villagers' knowledge in the environmental planning stage.

When making the plan for canal and river conservation, the consultant does not take account of local knowledge in the study reports..... This is because the TOR [terms of reference] for employing the consultant does not emphasize any aspect of local knowledge [CRCC interviewee; independent environmental expert: 3-06-05]

Another reason why the knowledge of the villagers was officially unacceptable was that it did not involve a process of policy and planning evaluation that focused on statistics and numerical results. As in the statement below, a project director from the WWF argued that the traditional evaluation and reporting systems of the bureaucracy did not encourage the use of knowledge of local people for playing a role in official NRC matters.

In my opinion, officials do not want to share or accept local knowledge. This is dependent upon several factors. They accept local knowledge is good and they understand about it. But they have activities under official policy and targets that are set by their superiors. For example, they accept that local practice can protect soil erosion, but they have the target that they have to plant Yafage grass to 100 rais [1 rais = 400 square meter] throughout the district, so the activity is just the achievement of cultivation of Yafage grass for 100 rais [WWF interviewee; project director: 31-05-05]

Lastly, the central agency interviewees argued that the knowledge of the villagers was localized. As seen in the statements below, a senior research from the Khonkaen University used a metaphor of a 'miracle drug' to argue that knowledge of the villagers could not solve worldwide environmental problems.

Several experts said that local knowledge is not a miracle drug. It can answer certain issues. Yet, it is unable to answer many issues because the current world has changed [KU interviewee; senior researcher: 27-05-05]

A further illustration is a project director from the WWF stating that knowledge of the villagers was simple and located in the local community. He pointed out there was an easy way to test this by a researcher simply going to a village and sharing activities with the villagers.

Actually, local knowledge is easy to find out; if we go down to stay with villagers for a few weeks, we know how they are living, eating and doing [WWF interviewee; project director: 31-05-05]

For an independent environmental expert who was a member of the Committee for Rivers, Canal Conservation, under the National Environmental Broad, argued that the importance of villagers' knowledge was at the local level, and that it might be important or unimportant in the central level depending upon trends in international policy. This was reflected thus:

Local knowledge is important at the local level, but it is not accepted at the national level, because ideas of policy at the national level are linked with the concepts of the international level, so if the concept of international policy are emphasized in local knowledge, the national policy may be following on it, but at the moment, the academic and official persons do not pay attention to local knowledge [CRCC interviewee; independent environmental expert: 3-06-05]

Moreover, researches from universities and NGO positioned villagers' knowledge as having local acceptability. They understand that villagers' knowledge was useful and necessary for their livelihood in local area.

To sum up, knowledge of villagers in the perspectives of the central interviewees was acceptable as local knowledge for villagers' everyday practice but it was insignificant in the context of NRM/C policy. Furthermore, it was unaccepted by the national park interviewee for supporting the park management.

5.4.4 An example of different perceptions: wild honey story

Wild bee honey has been an indigenous food for a long time. Indigenous villagers know how to gather wild bee honey from beehives. It becomes an issue of natural values when the hives are in national parks. The value of wild honey was discussed by central agency interviewees who work with the indigenous people. However, agencies which support sustainable use of natural resources and those who want to protect biodiversity viewed the value of wild honey differently. In this section, the story of wild honey in national parks is narrated by two conservation agencies: The National Park, Wildlife and Plant Department, which works for natural resource conservation, and the Department of Environmental Quality and Promotion, which works for sustainable resource management. Their statements reveal their different perceptions of natural resource values in terms of a natural value and a human value.

For the national park interviewee, the wild honey in national parks was associated with natural values. The number of beehives can indicate the integrity of the ecosystem in national parks. He did not approve of villagers gathering wild honey in national parks, as there is no evidence to show that the harvesting did not impact on park ecosystems. In his statement, the wild honey was linked to its natural value and to scientific research. His argument for avoiding honey gathering indicates the rigid attitude towards natural resource conservation focusing on natural values. It shows that the conservation of the balance of ecosystem is subject to hierarchies of natural values and the concerns of scientific knowledge.

Before establishing role [e.g. villager gathering wild bee honey], we need to study what is the value of the remaining wild produce. For example, if bee honey is gathered at about 80 bottles per year, we need to study its value, need to exactly inquire how many bees are made in the hives in each year; its honey has to produce more than 80 bottles It is impossible to allow an activity without data. It cannot be done [NPD interviewee; official senior director: 25-05-05]

In the competing perspective of natural resources being for human value, the wild honey in national parks should be available to villagers. This was the view of an official senior director from the DEQP who supports sustainable natural resource management. Her project was conducted in the indigenous community located in the buffer zone of national parks. One of many activities for sustainable natural resource utilization is to improve the gathering of wild honey in national parks. In her statement, which links honey and villagers to the market, she indicates that the official political view of natural resource management emphasises the human value. It is clear in this example that the management of 'biodiversity' is subject to human values.

We also cooperate with relevant agencies in the [buffer zone] area... for changing their practice from individual gathering to community gathering of wild products [wild honey in national parks]. We want villagers to learn how to work together. We help them [indigenous people] with marketing for selling wild honey [DEQP interviewee; official senior director: 24-05-05]

The two agencies present dichotomous views of honey as relating to either natural conservation or villager utilization. The official senior director from the NPD viewed the honey value as part of the park resources' values. The official senior director from the DEQP viewed the wild honey as a valuable resource for villagers and local livelihoods. This story of wild honey from the viewpoint of the two different official agencies is a good

example of the influence of global approaches that provide different perspectives and ways of practicing the NRM/C process among central agencies.

Further, the different perspectives of the two agencies appeared in the NRM/C policy decisions at the central level. The discussions from interviewees of the two agencies indicate the incongruence in the NRM/C policy. This is illustrated by the following narratives of the official senior director from the DEQP:

In 2004, I wanted to offer this idea to solve a conflicts in environmental matters in the ministry policy in the ministry meeting but [the director general of] national park department vetoed this model being used in the conservation areas. He stated in the meeting that 'I have a long experience of conservation, more than you. I have worked in natural resource conservation for long time, so you have to believe my idea and do not debate my idea' [DEQP interviewee; official senior director: 24-05-05]

The upshot of the discussion in this section is that the central agency interviewees' perspectives about the conservation area, the villagers, and the villagers' knowledge, contain differences that arise from the simultaneous application of contemporary and the global NRM/C concepts within agencies with different mandates and cultures of NRM/C practice. In addition, the villagers were seen in a variety of ways. The official senior director from the NPD presented a 'denial' discourse in which the villagers are portrayed as not belonging in national parks, and as villagers' knowledge that is not suitable for natural resource conservation in national parks. The official senior director from the DEQP had a more 'benign discourse' in which the villagers and their resource use could be sustainable and economically beneficial and in which their knowledge was itself a resource and useful for their livelihood. Thus, the wild honey in national parks became a source of conflict regarding the different values between human beings and nature.

Under these different perspectives of natural values, conservation places, and villagers and their knowledge, each interviewee constructed different values on issues, problems and solutions. These lead to different understandings and practices in relation to biodiversity values, conservation places, villagers and their knowledge (Paolisso & Chambers, 2001). Their different ideologies, purposes, roles, and responsibilities, consequently influence their judgment of villagers and national parks in different ways.

5.5 Participatory Practice in the National Park

The intention here is to reveal certain characteristics of participatory approach when applied in practice. Such characteristics reveal a pattern of villager position, knowledge transfer and natural resource values in a check dam project conducted by national park agencies.

The check dam or *Fauy Meo* is a construction to retain water in a small stream. It is constructed with simple materials, such as rock, wood, bamboo, and clay that can be found around a dam site. This material is used to build the check dam across a small stream. This forms a barrier for water storage, where certain amounts of water can flow through. Originally, check dams were constructed by a tribe named *Meo* who live in the forest in the North of Thailand. This ethnic group obtained sufficient water from the check dams during the dry season. The National Park, Wildlife and Plant Department adopted the check dam model as it supported the integrity of the forest and wildlife during the dry season. The dam can provide water for wild animals and plant growth and the moisture can prevent forest fires.

The check dam is a simple construction that uses existing material from the forest; therefore, the NPD adopted it as a participatory project to involve the villagers in a national park project. An official senior director from a central park agency under the NPD who has responsibilities to support the park management indicated that there was a participatory principle involved with the check dam project.

The narrative of an official senior director from the NPD related how he assumed that the villagers could understand the principles of conservation and knew how to collaborate with natural park officials to protect natural resources. He also assumed that participation in this national park project would support for the national park management among villagers.

I sent a budget to national parks to build check dams at about 10 sites. I told the heads of national parks that I sent to budget to you to construct check dams but I want you to bring villagers to build check dams. During construction, you can explain to the villagers about the benefits of the check dams, bring villagers to learn about the practice because if they understand the importance of natural resources, they can join with officials to protect them. But the villager's understanding is continuously developing, it can not suddenly happen, if there is not success in this generation, it may be in the next generation. In my opinion, the development of understanding together about conservation is the best way, and important, before going to the other processes of participation. However, it cannot happen within a classroom. So the national park department has this check dam project to help the villagers' learn. The national park official can explain to the villagers about the check dam that they made and the villagers can see it results in water retention and green trees surrounding the check dams in the dry season [NPD interviewee; official senior director: 25-05-05]

The discussion in this section on the check dam project reveals the kind of environmental knowledge used in the proposal and the position of villagers in the participatory activities and its outcome. The project used the environmental knowledge of the National Park Department only (even though the model was originally taken from a traditional practice in another part of Thailand). According to an official senior director from the NPD used the statement 'the department has this check dam project to help the villagers' learn', this implied that a source of knowledge was produced by the NPD and that the villagers were in need of education.

It is notable that the villagers did not appear as a source of useful knowledge in the operation of the check dam project. Thus, the NPD intended to make the villagers understand conservation methods that were laid down by scientific experts, as if the villagers were viewed as 'ignorant of natural resource conservation'. The statement of the official senior director from the NPD 'can see it results in water retention and green trees surrounding the check dams' implies the purpose of national park officials to demonstrate a conservation principle that upholds the integrity of water and wild plants.

Transfer of knowledge in the check dam project was created within the bureaucratic hierarchy of national park agencies. The transfer was direct, short and clear. There is a single channel within a single agency for transferring expert knowledge from the central park agency to the park practitioners, and consequently, to the villagers. According to the official senior director from the NPD, the terms 'I send budget', 'I told the heads', and 'I want' as part of a 'command discourse' indicate the bureaucratic hierarchy in which the

central official directs subordinates. This ‘command’ discourse is assumed as a single knowledge transfer method within the agency and reinforces that there is a direct line of knowledge from a single agency, without contamination from knowledge of other agencies.

The villagers were invited to participate in the project activities because in the opinion of the official experts the villagers were ignorant of natural resource conservation. The official experts’ role was labelled as ‘supporters’. Villagers were ‘helpers’ and ‘learners’ in the project activities. So the villagers and the experts were placed in different positions in the project activities. The official senior director from the NPD used the statement ‘how they can come to join with national park officials’ to reflect the politics of public participation. The National Park, Wildlife and Plant Department attempted to establish a relationship between national park officials and villagers, and enhance villagers’ knowledge.

Our department has wanted villagers to participate, particularly villagers dwelling in national parks, and how they can come to join with national park officials [NPD interviewee; official senior director: 25-05-05]

In another sense, the participatory approach of national park officials was seen as a mechanism for the villagers to ‘receive’ the expert knowledge on biological conservation. The conservation potential of the experts and villagers in the project were different. The villagers were classified as ‘environmentally ignorant persons’ and the experts as ‘environmentally aware’. The knowledge and associated practices of the villagers might be viewed by the official experts as dangerous and threatening for natural resources (Sibley, 1995, p132). So national park officials did not integrate the villagers’ knowledge in official national park management. Simultaneously, they imposed their knowledge on the villagers in order to dilute the danger and threat of villagers’ knowledge of natural resources. This is the use of power to pass on official knowledge to cause villagers to practice according to national park officials’ wishes.

This official project was criticised by non-official agencies as unsuitable for villagers. It was criticised as being ‘too centralized’, and having ‘unequal power relations’. The senior staff of the WPCF who has long experienced in participatory activities with local villagers criticised the project because it was ordered to carry out by the central agency. He used the

term ‘fall from top to bottom’ as a metaphor to point out the failings of the official participatory approach in the project.

In addition, a project director from the WWF pointed to how the power relations of the bureaucratic cultures influenced the transfer of knowledge. The term ‘the senior/junior person’ indicated the differences of participatory approaches within the unequal power in the bureaucratic culture.

The bureaucratic system is still in the culture of the senior/junior person because junior officers are unable to debate with the senior, but also they have to follow what seniors say [WWF interviewee; project director: 31-05-05]

This is because in the bureaucratic hierarchy, senior officers who work in the central levels influence decision making and can make ‘orders’ to impose their knowledge on the practice of junior officers at subordinate levels.

5.6 Summary

The intention in this chapter is to illustrate the incongruities within the central natural resources agencies that have been influenced by the flow of global concepts, approaches and cultures. Such influence is embedded in perspectives on the NRM/C, as well as the cultures of central agencies, functions of the central institutions, and conservation practices.

Four concepts of the global NRM/C, which are the national park model, biodiversity, participation and sustainability, have been introduced into Thai natural resource agencies. These global concepts are perceived by the central interviewee as being of varying importance. The national park interviewee understood biodiversity in the meaning of ecology and accepted national parks as a more useful concept for the NRM/C, whereas the sustainability and participation concepts were less important, and indeed even a problem. In contrast, other interviewees saw the sustainability and participation concepts as important for the NRM/C. And conservation of biodiversity was less important than central management for sustainability. These different perspectives of the global approaches lead to different perceptions of local natural conservation components: national park area,

natural value, local villagers, and their knowledge. These differences lead to struggles in the NRM/C policy and practice.

In discussion of the struggle, the concept of national parks as a cornerstone to convey the role of global concepts in the Thai NRM/C system is used. The national park concept is long standing and deeply rooted in the Thai bureaucratic system. The central park agency and its bureaucratic network have been produced and rebuilt in order to enhance the national park system.

However, single purpose management for conservation in national parks is being challenged by the broader global concepts of biodiversity, sustainability and participation. Consequently, the Environmental Acts were reformed in order to facilitate people's participation in sustainable management. So the transfer of current conservation has more pathways: it is not confined to the network of 'bureaucratic technocrats' as before. As a result, other agencies, such as NGOs, university researchers and independent experts have the opportunity to bring their own sustainable management concepts into the domain of the NRM/C. Thus, the extension of sustainable management concepts and approaches in the NRM/C system affects the traditional park management. This is because the tradition conservation system and national park area are conceived by sustainable management experts as a space to share knowledge and to practice sustainable management.

Therefore, in order to survive within increasingly influential sustainable management frameworks, national park officials need to promote their ways of knowing on conservation to be of primary importance, and to be able to prevent other ways of knowing being used in the policy making process and in national park area. They argue that other approaches to conservation are insignificant or unimportant, and they devalue people who practice such concepts as being dangerous for natural resource conservation. The following paragraphs illustrate the four mechanisms that national park officials use to challenge others in the domain of the Thai NRM/C system. The four mechanisms are the rejection of other principles in policy and practice, construction and promotion of specialised conservation

knowledge, reduction of conservation networks, and classification of people as either exploiters or conservationists.

The first focus is on the rejection of other principles in national park policy and practice. National park agencies reject principles that are on offer as policy approaches for solving social conflicts in the protected areas. This rejection is reflected in the narrative of an official interviewee who stated that the sustainable management concept was rejected by the senior officials of the NPD. The rejection is a mechanism to exclude other knowledge and ways of knowing from the conservation domain. In other words, it is a mechanism of purification of knowledge (Bernstein, 1967; Sibley, 1995) for the NRC. The National Park, Wildlife and Plant Department does not allow any activity to be introduced in national parks under a sustainable management concept. This procedure could imply that the prevention of other activities is a mechanism to retain their power in conservation. This mechanism can reduce the impacts of change on their agency culture and politics, which are imbedded in the human exclusion ideology.

The second mechanism is the creation of specialized knowledge to support the conservation concepts, which restrict human activities in the conservation area. Conservation knowledge is only endorsed after it is screened and approved by the National Park Board. In addition, any type of knowledge that is not harmonious with the concept of excluding humans is not considered appropriate by the National Park Board. The board does not allow any means for villagers to gather wild products in national park areas. In addition, the Board does not accept the principle of wild product gathering by the villagers because such villager principles contrast with the Board's concept of the national park. The mechanism of specialisation should be understood as social control (Sibley, 1988; Gill, 1997) because power appears in the construction of specific knowledge (Keeley & Scoones, 2003).

The third mechanism is the reduction of the network of conservation domain by limiting the power of the local national park committee. The committee is assigned a role as a consultant, instead of having actual decision making power in the national park

management. This reduction is understood as being a mechanism to preserve the power of the national park central official in the conservation decision making.

Finally, national park officials classify relevant people into two groups: conservationists and exploiters. This classification is a mechanism to achieve ‘purification’ of conservation. The official experts are classified as having a high degree of conservation awareness, whereas other groups of people are viewed as impediments to conservation. In this way, villagers who dwell in national parks are labelled as illegal, ignorant, exploiting people.

Overall, the national park concept based on the separation between humans and non-human is both strongly policed and uncertain. It is constructed and challenged based on different social groups, and there are various conservation alternatives and models based on different roles of local people, their culture and knowledge, and on different conceptions of appropriate relationships between people and nature.

National park policy and practice have been challenged by the new alternatives of NRM/C involving sustainability and biodiversity conservation with the inclusion of different relevant agencies. In addition, villagers in and at the fringe of national parks cannot be excluded from their places and they are viewed by NGO and researcher interviewees as a significant group for supporting biodiversity in national parks. The new alternatives of the NRM/C are currently in opposition to the orthodox national park model at the local level. This leads to ambiguity in the implementation of the NRM/C policies and legislation.

The trend of different approaches to the NRM/C used by different agencies is reflected in the practice of conservation in the community. In the next chapter, the matters of local natural resource conservation that are constructed by local scientific experts and indigenous people will be discussed.

Chapter 6

Spaces Of People And Nature In Management Of The National Park And The PLON

6.1 Introduction

This chapter is based on the fieldwork information carried out in the Karang community. The information from key informants including ten Karang interviewees and five local experts are presented. As mentioned in chapter 3, the Karang interviewees were selected from villagers who have long experientially living in the study area. They are various occupations, such as farmer, folk doctors and headmen of ritual practice, and local expert interviewees were selected from various agencies who have occupations, responsibilities and activities in the study area. They are a national park officer, a teacher, a health officer, a local Karang expert and a NGO manager.

The result of the analysis indicates that each local expert had different responsibilities in the study area. The national park officer has responsibilities to manage the national park under the bureaucratic system and central park policies. Four main tasks of his responsibilities consist of natural resource protection, wildlife research, tour service, and public aware enhancement. A health officer had responsibilities under the public health policy that was distributed from the health central agencies. His responsibilities were patients' treatment, health promotion and education, health care services, pollution control, water resource control for protecting food born diseases. Although he did not directly relate with the park resource management, in his personality and long experience, he was assigned as a consult for other official persons who had activities in the Karang community. A teacher had responsibilities to teach the Karang students, create their awareness regarding natural resource conservation, work with the Karang for conservation activities. He joined other outside agencies to operate their activities in the school, such as NGOs for demonstrating activities of participation, national park officials for meeting villagers to protect the park resources, a local Karang expert for demonstrating Karang cultures, agricultural officials

and community development officials for villager activities regarding natural resource sustainable utilization, and health officials for health service. A local Karang expert had responsibilities to study Karang cultures and their way of life. He built a central house to storage Karang tools and evidences and demonstrated Karang tradition and culture. A NGO was a manager of a WWW project that supported both national park officials and the Karang. Under project activities, he joined park officials to study wildlife habitat in the national park and to set up database about wildlife in national park offices and trained park staffs with the necessary skills for working with the local communities, and trained the Karang in a context of sustainable use of natural resources. The result of the analysis reveals that certain activities of national park official, health official, teacher and a NGO linked to their central agencies. Some activities of local expert agencies, such as national park official and the NGO were related together. In addition, activities of local expert agencies were laid on the different conservation concepts. That is. Activities of local park officials were under the orthodox park model, whereas activities of other local experts including a health officer, teacher, local Karang expert, and a NGO trended to support the new conservation concept.

The chapter consists of four main sections. The first section further describes the issue of the Kaeng Krachan National Park implementation that was presented in chapter 4. This introductory section focuses on mechanisms of demarcation between Karang living zones and the national park.

The second section focuses on the *par lau oun noi* (PLON) as a special area. There are three important themes emerging from the PLON matter that are presented here: space of natural resource integrity and threat, contaminated or pleasing space, and encroaching space. This section illustrates how the specialized spaces are confirmed and maintained, and how the Karang resist the mechanisms of exclusion in the specialized spaces.

The third section presents activities and knowledge within the national park. Four themes emerge in this section: multiple use space, space of power, natural space for serving human/non-human values, and space of different biological knowledge. This section shows

that this national park is not purely a space for natural resource protection; rather it contains several activities and cultures. Under their current power, regulations and technology, national park officials cannot prevent human activities in the national park.

The fourth section presents the participatory activities conducted by local experts in the study area. It reveals the incompatibility of participation policy and concepts with local practice. The chapter finishes with a summary of the major outcomes from the analysis.

6.2 Construction of the Demarcation Between Humans and Nature

As mentioned in chapter 4, during the implementation of the Kaeng Krachan National Park, the Karang village area was officially separated into two zones: one for villager settlement and one for natural resource conservation. The boundary between the two zones was constructed purposely to separate Karang activities from the national park area. Several methods were employed to demarcate the boundary, such as posts, maps, photographs, and GPS. In addition, concrete posts and billboards were positioned at the boundary of the Kaeng Krachan National Park. During an interview, a national park official interviewee showed a map of national park areas (Figure 6-1), and he pointed out where the boundaries between the Kaeng Krachan National Park and the Karang village are located.



Figure 6-1 The map that a national park official used to indicate the boundary of Kaeng Krachan National Park

The boundary between the Kaeng Krachan National Park and the reformed zone (see section 4-4) that is located in the community area as presented in chapter 4 clearly separates the human activity zone from the national park. That is, the Karang can freely use their living land for farming and house building in the reformed zone, but cannot use any other zones in the Kaeng Krachan National Park. A health official interviewee who has long experientially work since the initial Karang resettlement stated that the initial purpose of the reformed zone was to officially allot the land for the Karang to live in, security reasons, as he stated.

Initially, our government gave land to the Karang for their living with the purpose to manage them and also for national security. The official wanted to control some Karang who were spies of neighboring country. These spies investigated the information about Thai military who were based near the border [Health official interviewee: 29-04-05]

This official purpose of providing the Karangs with living lands in the reformed zone was to permanently prevent the spread of communism (see Zurcher, 2006). However, currently the reformed zone supplements the official purpose of preventing Karang squatters in the Kaeng Krachan National Park by encouraging the Karang to embrace ‘more civilized’ behaviour. The Karang are judged by officials to be an uncivilized group.

As mentioned in chapter 4, the demarcation between the national park and the controlled zone or the PLON is different from the reformed zone (see Figure 6-2). This is because the

PLON has become an ‘overlap area’ of both the Karang living land and the Kaeng Krachan National Park area. That is, the PLON is part of the Kaeng Krachan National Park, which exists to preserve the natural resource habitat. As a national park interviewee pointed to a location on the map and stated that this *par lar ouu noi* (PLON) is the national park, it is not a village place’. However, after the cabinet resolution of 30 June 1998, which allowed the Karang who had been living on the PLON before the establishment of the national park to continue living there, national park officials could not exclude the Karang from this area. The park officials have mechanisms to control the Karang in the PLON. These mechanisms will be further presented in section 6.3.

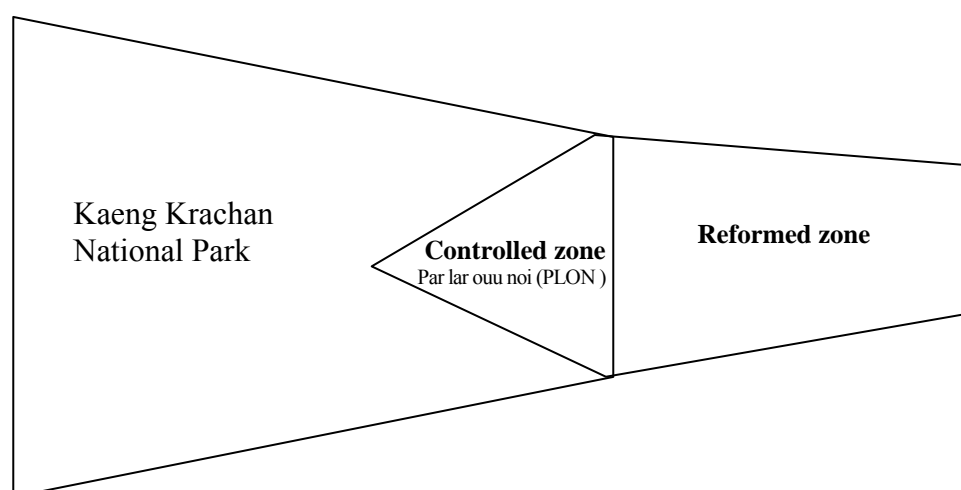


Figure 6-2 Reformed zone in the Karang village and the controlled zone that overlaps between the village and the national park

The short discussion in this section is that the Karang village is inextricably linked to the Kaeng Krachan National Park implementation. The village area was separated by official agencies for Karang residence and resource habitats. The Karang were assigned to live in the reformed zone.

It is notable that the allotment of land by official agencies for indigenous villagers is seen as an official mechanism to control people (Cresswell, 1996). Similarly, Sibley (1995 p84) also argued that, the official designation of land for ethnic groups to live on is a mechanism of official power and for separating and ‘improving’ minority groups. In addition, the exclusion of the ethnic group from the national park is the main purpose of the orthodox park management (Roth, 2004b).

The PLON is a particular product of the human/ nature separation approach that operates in the national park. At the time of the data collection, the PLON functioned to support two different NRC policies: a conservation policy of human inclusion, and one of human exclusion from the natural resource place. The separation of human living and natural resource habitats is unattainable, and is a continuing cause of conflict between the Karang and national park officials. The Karang still disagree with the control of their lives and national park officials cannot control the Karang culture and identity. As Sibley (1995 p32) points out, this idea of separation is a problem because human livelihood activities and natural resources cannot be separated.

6.3 Spatial Concept of the PLON: contradiction of policy practice

This section will present the views of interviewees on the functions of the PLON and its boundaries. As mentioned above, the PLON is a space that overlaps the areas of the Karang village and the Kaeng Krachan National Park. This overlapping area is one in which when two different concepts of conservation policy are enforced. Under the two incompatible conservation policies, national park officials needed to modify their responsibilities in national park management. In doing so, national park officials first surveyed those who lived in the PLON before it was incorporated in the Kaeng Krachan National Park. Then, they designated the land for each Karang family (see Figure 6-3).

Each family gained about 1-2 rais (400-800 square meters) of land for house building and gardens. After that, national park officials put the cement posts ground each block of surrounding the giving land, and required the Karang to avoid certain activities in the land that will impact on natural value. It is notable that national park officials did not use the full area of the PLON to subdivide into allotments for the Karang families. Rather, national park officials gave a small piece of land to each Karang family. So the living land in the PLON is not a homogenous zone, rather settlement is scattered in the PLON. The land between blocks is officially to be managed as national park land.

The boundary and the rules regarding the PLON were constructed to control the Karang activities in the national park and their activities within the PLON. Following Sibley (1995) and Cresswell (1996), the spatial boundary and rules of space can be seen as mechanism for controlling the people living in the area. The interviewees considered the PLON differently. The following subsections will present some of their views about the PLON. These include views about space of natural resource integrity and threat, contaminated or pleasing space, and encroaching space.

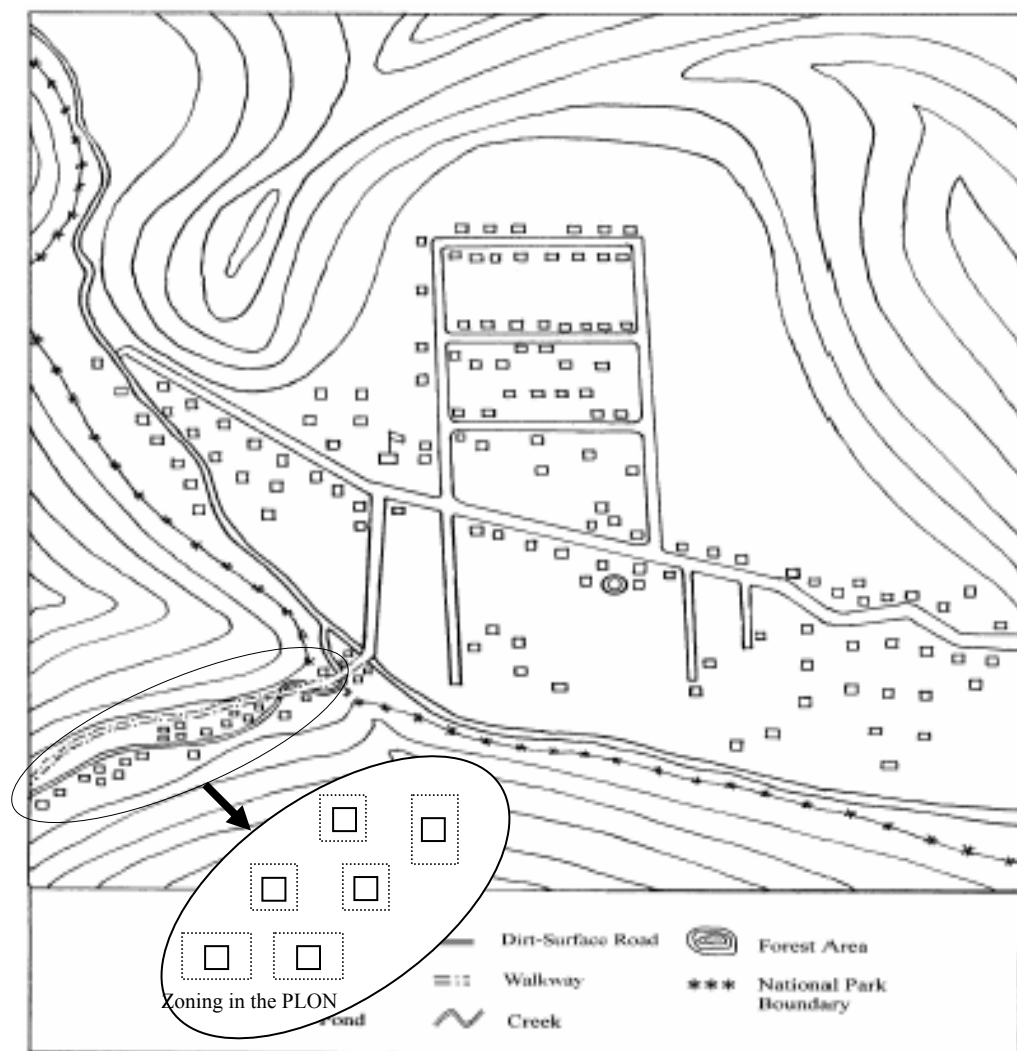


Figure 6-3 The zoning in the PLON is the land designated for the Karang. The enlargement shows houses (a solid line) and the surrounding garden (dotted line)

6.3.1 A space of natural resource integrity and threat: different notions of conservation in the PLON

The integrity of natural resources in the PLON is involved with the diversity of wild animals and plants. The following information is taken from the narratives of the Karang and local expert interviewees about their experiences in the PLON.

A national park interviewee who has responded to control the PLON as the national park area said that the PLON is a habitat for many kinds of butterfly. In addition, he asserted that ‘at the *par lar ouu noi* area, we are not yet open to tourists because the forest still has the complete integrity of a national park’. This indicates his view of high natural values in the PLON. A health official interviewee talked about problems of Karang behaviour that related the food born diseases. He mentioned the gathering of some kinds of aquatic animals in the PLON. This implies that these aquatic animals are plentiful in a *par lar ouu noi* creek.

They eat uncooked food such as fishy small shrimp, fish and crab. They caught crabs from the par lar ouu noi creek and they took off the crab legs and suddenly they eat its fishy body with chili, without cooking [Health official interviewee: 11-05-05]

A local Karang expert interviewee advised that the Karang used wild animals to predict the weather by observing their behaviour. In his narrative, the Karang use the heron or the monitor lizard to anticipate rain, the bamboo rat to predict the rainy or dry season, and the nests of a species of bird to predict the level of flooding.

The integrity of wild plants in the PLON appears in the statements of local expert interviewees. Their statements show that there is a variety of wild herbs remaining in the PLON and the surrounding areas. For example, a health official and a teacher interviewee stated that the Karang know and use many kinds of herbal plants for the treatment of diseases. They find these herbal plants in areas surrounding their living lands.

The Karang did not take herb from the school herbal garden. They seek herbs near their houses because most of their houses in the par lar ouu noi are on the side of the mountain [Teacher interviewee: 10-05-05]

While local expert interviewees maintained that the PLON contains a wide diversity of plants and animals, they make a negative link between wild animals and plants and their

use by the Karang. They indicated that some wild animal species, such as deer and barking deer, cannot live in the PLON because they were hunted by the Karang for food and herbal medicine. For example, a national park interviewee pointed out that the wild animals in the forest around the PLON moved to an area near the national park office to avoid being hunted by the Karang. In addition, he claimed that the Karang still poached wild animals in the national park. He implied that the status of wild animals near the PLON was in crisis because they were hunted by the Karang.

Wild animals in the surrounding forest nearby the villages move to live near the office. Barking deer and deer knew that this area is safe for them. When animals near the village were gone, the Karang poached in this area [National park interviewee: 28-04-05]

We know that there are plenty of some kinds of wild animals in the par lar uoo noi, such as deer, wild chicken and birds. The Karang always hunt these wild animals. We have to intercept them [National park interviewee: 28-04-05]

The argument of local expert interviewees on the negative relationship between Karang and wild animals is similar to the recommendation from biological research conducted in the Kaeng Krachan National Park. The biological researchers claim that the decline in population and habitat of protected animals such as barking deer, sambar, and leopards threatened is because of encroachment, poaching and hunting by villagers (Grassman, 1999).

The Karang interviewees also said that there are many kinds of wild animals and plants in the PLON. One Karang interviewee stated that he saw various kinds of wild animals, such as a barking deer, civet cat and wild fowl, when they were drinking water at the waterfall in the upper the PLON area.

I saw a barking deer, civet cat and wild fowl. They came to drink water at a waterfall and they went back to the forest [Karang interviewee:4; a farmer and a pollution control leader: 1-04-05]

Two Karang interviewees said that wild animals, such as barking deer and deer came to their living lands.

On that day my brother was eating, we saw two barking deer come to eat grass on our living land. We did not do anything; they went on their way [Karang interviewee:9; a farmer and a wild animal hunter: 10-04-05]
When a squirrel makes a loud sound, deer will be coming here. But it does not come if people are present [Karang interviewee:2; a farmer, a folk doctor and a headman of ritual practice: 13 24-04-05]

In addition, the Karang have made long-term use of many wild animals and wild plants for food, medicine, house building, traditional rites and anticipation of the weather. Karang interviewees stated that there are plentiful wild plants that can be used for food and herbal medicines. The statements below are examples.

This is phak goose that we can eat only its youngest leaves. This is bon that we can eat only its roots and flowers. I cut the edible parts for eating. I do not evacuate its whole clump . I leave some part of them for cutting next time [Karang interviewee:4; a farmer and a pollution control leader: 7-04-05]

Yay hou hou [a kind of grass] can be found in the stream. It can be used as a herb for fever cough and gasping. I use its leaves by grinding and pressing for its green water. We use only its leaves, we do not dig up its whole body for use [Karang interviewee 7; a farmer: 15-04-05]

One Karang interviewee said that he has traditionally used wild plants and wild birds to anticipate flooding. If they see a nest of a particular kind of bird that builds its nest in a tree at the riverside, they know that this is just above the possible flood level. They are able without radio or television, to use nature as a guide to floods, drought, winds and storms. He used the Karang language names of ‘Gi-la-la bi’ and ‘Pi-Ka-Doot’ to identity the bird and tree as significant because they can be useful for the prediction of flooding.

This is called Gi-la-la bi [a type of tree], growing well on the streamside. It is a favourite for the Pi-Ka-Door [a kind of bird] making its nest. The height of the nest is different in different years. Flooding in each year can be read by the level of the nest. So we can anticipate the level of flooding from the height level of the nests [Karang interviewee:1; a farmer and a village leader: 27-04-05]

In addition, the natural resource threat was embedded in the Karang narratives about sambar hunting. The Karang interviewees stated that sambars can freely forage in the PLON. At times they come to eat their crop near their houses but they were killed by outsiders.

When we planted bananas and chilli, sambars came to eat them. They ate banana and chilli leafs. We cannot hunt them because they are protected animals, if anyone shoots them; many national park officials come here to investigate. They told us that sambar is a protected animal. They forbid anyone to kill and disturb sambar. They told us that if anyone shoots sambars here, they will arrest them [Karang interviewee:7; a farmer: 25-04-05]

The Karang interviewees said that sambars were hunted by outside hunters. One interviewee stated that he saw Thai rural people hunting a sambar in their living land. Another Karang interviewee stated that a sambar was hunted by the border policemen. They used police dogs for hunting, to avoid detecting by the national park guard, as he stated:

At least a few months ago, in the evening, a sambar was bitten by the border police dogs. The border policemen brought dogs to that hill, when dogs met a sambar, the police dogs bit it. I saw the sambar was bloody in all its body, it could not run away and fall down. The policemen took it to their camp. The policemen used their dogs instead of shooting with a gun because they do not make loud sound [Karang interviewee:3; a midwife and a gardener: 4-04-05]

All in all, these issues of wild animals and wild plants were common in the interviewees' dialogues. All the local expert interviewees agreed that there are many wild plants and animals in the PLON. However, they linked the relationship between wildlife and the Karang in different ways. The national park interviewee maintained that the relationship is one where the Karang hunt the wild animals. The other local expert interviewees have a different perspective on the relationship of the Karang and wild animals and plants in the PLON.

Meanwhile, Karang interviewees claimed that they are a group who exercise care in their use of wild plants and they do not kill wild animals in the PLON, as if they are positioned in a friendly relationship with wild animals. In addition, they indicated that the protected wild animals in the PLON were killed by outsiders. The wild animals in the PLON were threatened. The realities of the 'hunter' are constructed by the Karang and local expert interviewees in different ways. This different issue of who the hunters are leads to different ways of identifying and solving the problem of wildlife threat.

6.3.2 Contaminated or pleasing space

As mentioned in chapter 4, the PLON is located on the bank of the creek that flows to the Pran River. The PLON is an upstream area that is preserved as a water source for the Pran River. The issues of water resources in this area were a common subject of the interviewees' talk. The local expert interviewees labeled the PLON as contaminated, whereas the Karang interviewees viewed it as a pleasing space.

The use of agricultural chemicals by ethnic groups in the upstream areas in Thailand has become a stereotype of forest people by conservationists who see this as a potential cause of the contamination of water resources (Hirsch, 1990; Laungaramsri, 2000). Therefore, the

Karang who live in the PLON and their activities are shaped in this stereotype. Local experts are greatly concerned about the impact of the Karang on water quality and quantity. For example, a district headman ordered the Karang to take more care of the water in the stream because it would become polluted. However, the Karang stated that their activities are not the cause of pollution. The following subsections consider more details of a contaminated space, and domestic practice and environmental conditions.

Firstly, a contaminated space is a metaphor constructed by local expert interviewees to point out the PLON as being a dirty place. The discourse of contaminated space is linked with the Karang hygiene, and their activities concerning pesticide use, wastewater, garbage, and chemical fertilization. Local official expert interviewees alleged that the Karang are unhygienic people. A health official interviewee indicated that Karang used the stream for such purposes as taking a bath, washing clothes as shown in the Figure 6-4, garbage disposal and drinking raw water from the stream. He argued that the Karang behaviour in the stream is bad hygiene because it causes pollution and epidemic diseases.



Figure 6-4 Traditional bathing and clothes washing of the Karang in the creek. These practices are condemned by the local experts as pollution sources

Also, he pointed to the habit of ‘eating raw fish’ as unhygienic. He remarked that this behaviour was ‘unlike ours’, judging Karang behaviour to be different from that of normal Thai rural villagers.

Talking about their sanitation, the Karang bathe and wash many things in the stream. They abandon garbage in the stream. When the rain comes many things are discharged into the stream [Health official interviewee: 29-04-05]

The Karang have a long practiced using the water for bathing and taking water for drinking at the same time. I guess that if one day a dangerous water disease spreads, all the villagers will die [Health official interviewee: 5-05-05]

Another thing is their behaviour, such as fish eating that is incorrect hygiene. It is unlike our practice of cleaning and boiling before eating [Health official interviewee: 5-05-05]

Moreover, both health official and teacher interviewees alluded to the Karang by using the terms ‘bad hygiene persons’ and polluters. For example, a health official interviewee related how shoes were distributed to Karang students as a means of preventing hookworm entering their bodies; however, the shoes became garbage because the students threw them away in a school yard and on walking tracks. A teacher interviewee confirmed the shoe story adding that the Karang students added to the pollution by leaving the donated shoes in a school yard.

Human waste is seen as a serious cause of epidemic food-born diseases and water pollution in PLON. In the experience of a health official interviewee, a sanitary toilet is the acceptable scientific approach for protection against human waste. However, he stated that the Karang would not accept such a toilet. He recounted his actions when he tried very hard to promote the toilet, but the Karang refused to see his point.

We have an option that we can supply materials for toilet building and they [the Karang] can pay money back after they build the toilet. However, when we asked them if they want to order the materials or not, they said that they do not want. So we already supported the sanitary toilet to them, but they do not want it. As if we attempt impose the toilet on them without their need [Health official interviewee: 11-05-05]

A national park interviewee argued that he does not trust the Karang method of avoiding pollution. He was concerned about the use of agricultural chemical fertilizers, pesticides, and herbicides in the PLON. In addition, he argued that the Karang in the PLON were a cause of water pollution.

To maintain the upstream area, the national park is protected by prohibiting people from interfering with it, no hunting, no cutting of trees. Most of the upstream area is a conservation zone. You said that people travel through the par lar ouu noi, but it is a conservation area there. We still conserve the water source of Pran River, so we do not allow people to interfere with it [National park interviewee: 4-05-05]

His arguments about contamination provide reasons to control Karang activities in this area, or move the Karang away from the PLON in order to provide good water quality and quantity. He used words, such as ‘maintain’, ‘prohibiting people from interfering’ to argue for the prohibition of the Karang activities in the PLON. The contamination discourse is another example of social power being used as a mechanism of exclusion (Cresswell, 1996).

From statements of national park interviewee, it can be implied that the Karang who live in the PLON area are viewed as unhygienic people who tend to impact negatively on the water quality and quantity; in other words, activities of the Karang are perceived as a source of pollution.

All in all, most official interviewees, including a teacher, a health official and a national park official, allege that the Karang are polluters in the PLON. A health official interviewee directly emphasized that the Karang were a cause of water pollution and garbage by leaving things in the walkways, stream banks and school yards and bathing in the stream. Similarly, a teacher interviewee pointed out that the Karang cause wastewater problems. She linked the pollution to poor education and conservation unawareness. In a similar way, a national park interviewee argued that the Karang were water polluters in the PLON.

Secondly, the Karang interviewees confirmed that the PLON is a place in good environmental condition. The Karang argued that they live in the PLON with good natural resource practices, and are not contaminating it with garbage or chemical agricultural substances. They never used agricultural chemicals. They reasoned that the soil is sufficiently rich with natural fertilizer. Moreover, they argued that water pollution has never occurred in their living area; as a Karang interviewee stated ‘here water never has a bad smell, we drink it all year without boiling’.

They argued that they have hygienic practices. They control human waste and pollutants in water, on land, and under their houses. That is, they never urinate or defecate in the stream.

In addition, they argued that water in the stream beside their living area is clear, it can be drunk, and its taste is better than the supplied water.

There are never stools in the water ways, it is not good because water in the stream is drunk by many people, animals and spirit [Karang interviewee:3; a midwife and a gardener: 14-04-05]

In addition, a Karang interviewee claimed their toilet type is good as a means of natural resource conservation. Their toilet is judged is comfortable and economical because it does not use water and toilet paper: tree branches are used for cleaning up the stool.

We have a dug toilet near our houses. It is constructed by digging deep in the soil and using trunk for bracing. We do not use water to clear up. We use tree branch like this, take some of dry branch without shape and thorn to wipe out the stool from bottom for clearing up [Karang interviewee:5, a farmer and a midwife: 23-04-05]

The Karang interviewees argued that used water from the kitchen is useful and it is unlike wastewater. They said that it can be used to protect the soil under the house and provide food for their livestock because food particles, which remain in the washing water, can become feed for chickens when it is discharged on the soil. Their practice for used water is to always discharge it on the ground under the house.

They swept garbage from the ground for their own convenience and for the appreciation of visitors. They used the term ‘*sa ard dee*’ to explain that they control garbage in their living area and make sure their houses are free of pollution. The Karang had several reasons for clearing the ground, such as to protect against snakes and scorpions coming in, to make visitors appreciate their houses, and to show outside persons that they are living in the PLON without pollution.

The Karang argued that they are better at conservation practice in the PLON than those who live downstream. They maintain the plants in a stream bank to protect the water from drying up. They know that plants in the stream and stream bank can retain water in the stream, and they explain the relationship between the waters, trees and sun in that the wild plants can prevent sunlight from reaching the surface of the water in the stream and thus reduce evaporation.

If we take out the plants, water dry up. Sunlight shines on a stream if no plants shade the water run into a stream base [Karang interviewee:6, a farmer: 3-04-05]

*Keep weeds in a stream's base to gain roum-yen (shady and cool) and maintain moisture
[Karang interviewee:2; a farmer, a folk doctor and a headman of ritual practice: 24-04-05]*

Furthermore, they gave an example of the cause of water drying up by comparing the water quantity between a rural area and their living area and judged themselves to be water resource protectors, and considered outsiders as opponents of water conservation, as the statement below explains:

From my observation, water in the stream in the down stream is drying up because there are few trees to cover the stream. Here the stream has plenty of water in it. Water does not dry up. It is good if there are many trees in and around the stream [Karang interviewee:5; a farmer and a midwife: 12-04-05]

Moreover, the Karang interviewees described Thai villagers as polluters. They pointed out that they saw Thai rural villagers living downstream who do not look after water and throw garbage in the stream. In addition, they argue that when Thai people come to the PLON, they throw plastic bags and cans on the walkways.

To sum up, local expert interviewees were aware that the PLON is located in the hilly area where the water flows into the Pran River. They were concerned about water pollution from the PLON being discharged and impacting on water quality in the Pran River. The interviewees had different understandings about the quality of the PLON. The official local expert interviewees believe that this is a contaminated area and point to the pollution in it, whereas the Karang interviewees thought it was a good environmental place.

The issue of contaminated or pleasing space involves different assumptions about water quality and hygiene. The Karang viewed good water quality as water which was transparent, colorless, had no smell, and favorable taste. Under their perspective of good water quality, they preferred to drink stream water without treatment, instead of water from rain water storages. In addition, they avoided drinking turbid water or colored water that they accept is not good water. Meanwhile, official experts perceived good water quality as having no contamination of germs and garbage. The local experts believe that raw water in the stream is not of good status because it is contaminated with germs and there is risk of a disease epidemic. They linked certain practices of the Karang to the causes of water contamination.

In this section, hygiene is viewed differently by the Karang and local expert interviewees. The Karang view hygiene as occurring in a space without the contamination of garbage, chemical agricultural substances, and human wastes. They argued that the PLON does not have the contamination of garbage, chemical agricultural substances and human waste in water, on land or under their houses.

On the other hand, official experts viewed ‘hygiene’ as being connected to human behavior that could cause pollution and disease epidemic. Therefore, Karang behaviour such as leaving things on the stream bank, in school yards, and on walkways, or bathing in the stream was ‘unacceptable to hygiene’. They considered that the Karang do not understand hygiene because they tend to impact negatively on the water quality and quantity, and contribute to pollution occurrence in the area. In addition, they viewed the Karang as an ‘unhygienic group’ because of their activities such as bathing, washing clothes and throwing garbage into the stream. These behaviours were unacceptable because they cause disease epidemics.

6.3.3 Encroaching space

As mentioned earlier in Section 6.3, the PLON is a specialised space to control Karang activities in the national park. This section will focus on the struggle between national park officials and the Karang over land in the PLON that has resulted from the political change aimed at allowing all the Karang from the national park area to have land in the PLON. The national park officials have to adjust their former practices and now must prevent squatters and control the Karang’s activities in the PLON. The statement below was typical.

After the cabinet resolution allowed people who had been living in the par lar ouu noi before the national park announcement to live in the same place without arrest, we have to keep them living only in the same area as before [National park interviewee: 4-05-05]

In practice, national park officials have to make clear the PLON boundary in the national park area. The boundary to enclose the Karang living lands is constructed within the national park. It functions to control the Karang activities associated with their livelihood within their living land, and prevents them from extending into other areas of the national park. Several types of boundary markers, such as GPS, posts, and billboards were

employed for this task in the PLON. A national park interviewee advised that surveillance is possible by adapting such scientific technologies as GPS and 'name code'. He claimed that these scientific methods are able to detect what the squatters are doing.

The Karang cannot claim the rights to land in the national park because our data are 100 percent correct. If any area is invaded, absolutely we can check and detect with GPS. Also the area in the par lar ouu noi is given a name code 10/1 for the detailed information on who uses the lands and where the locations of their living land are. If any area in the par lar ouu noi has a problem, we open the files and can detect quickly [National park interviewee: 4-05-05]

He argued that the data for controlling Karang squatters in the PLON is credible and accurate because they were collected at the sites, and they used a translator to confirm the accuracy of the Karang names.

In 1999, I surveyed every house in the par lar ouu noi to investigate who were the land users and collected the names of the users, such as names of Ga bung or Gar bo, whom is Mr. Gar bo or Mr. Ga bung. I used a translator to write these names, and made sure the names were correct [National park interviewee: 28-04-05]

In order to maintain the boundary of the PLON, national park officials inspect posts and billboards, and take photographs in the Karang living lands and on the boundary. This is confirmed by a Karang interviewee who said that when national park officials came to his living land, they always took photographs at the edge of Karang living land and checked the concrete post.

Reforestation is another mechanism of encroaching space. The narratives of reforestation from local experts and Karang interviewees revealed that this operated after the new conservation policy was announced in 1998, and then the PLON was surveyed to support this policy in 1999. After the survey, national park officials allotted some pieces of lands for the Karang to live in the PLON of the national park area. The national park official hired outside workers to plant valuable tree species, such as *Xylia xylocarpa*, *Afzelia xylocarpa*, and *Grudia chrysantha* that were supported from the forest agency. The reforestation was taking place in other pieces of land including on agricultural fallows that the Karang used for their cultivation farming. In the narratives, the Karang were not involved in the reforestation activities. One national park interviewee gave me a reason that 'the Karang were not good labour, they could not work continuously, they work one day but stopped two days'.

For the national park, the task of reforestation is to rehabilitate the forest, increase the value of the park resources, and support the national policy of forest conservation. This is a national policy to extend the forest conservation area (Sato, 2000). After planting, the national park placed a billboard to declare that ‘this is a tree planting area’ in the national park and the Karang living land, as shown in Figure 6-5.



Figure 6-5 Billboard positioned between the Karang living land and a reforestation area

For the Karang viewpoint, activities of national park official in planting trees and posting a billboard declaring a reforested conservation area on the land near their living lands was the activity of an invader. The statement below is an example.

I can say that national park official came to cultivate trees in this area and posted a billboard of conservation area at this point. Actually, that area is not owned by national park officials. My father and our group used that land for living before national park official came to plant trees and covered that land [Karang interviewee:9; a farmer and a wild animal hunter: 2-04-05]

In addition, the Karang viewed that the reforestation area becomes a space of official power. They argued that the national park ordered them not to cut trees in the reforestation area. A statement below is typical.

We cannot clear the reforestation area, land. If we clear the area, national park officials arrest us. They put in posts to mark the boundary. I can clear land just adjacent to the boundary point [Karang interviewee:10; a gardener and a headman of ritual practice: 6-04-05]

Moreover, they felt that the trees in the reforestation area belong to the national park.

When national park officials came to the PLON, they checked the trees that they planted. They said that they donated this reforestation area for the King's purpose. They wrote down this on the plate to declare that they ban clearing in that area [Karang interviewee:5; a farmer and a midwife: 8-04-05]

All in all, the boundary constructed by national park officials became a land-ownership conflict between the Karang and national park officials. The national park officials claimed that the land is nationally owned, whereas the Karang asserted that the land belongs to the first user. Each side accused each other of being the invader. The following sections will discuss this feature, and looking at whether land ownership is based on the claims of the nation or the earliest occupations.

From the aspect of nationally owned land, local expert interviewees understood that all natural things in the PLON, including land, rivers, wild plants and animals, belong to the Kaeng Krachan National Park and are subject to laws administrated by national park officials, but some areas of the national park have been set aside for the Karang. They recognized that the Kaeng Krachan National Park is a national estate and national park officials have responsibilities under the bureaucratic system and official regulations, such as the National Park Act. The statements below are examples of this.

Under the National Park Act, people cannot independently use everything in the national park, it is illegal and forbidden [National park interviewee: 9-05-05]

The national park officials have responsibility in the national park. They act under their regulations [NGO interviewee: 12-05-05]

The Acts and official regulations provide the power to protect national treasures, such as the national park area. The park officials can arrest the Karang and exclude them from the national park area. They strictly control the Karang activities within their living land and must prevent their intrusion into the national park. For example, a national park interviewee stated that national park officials have a legitimate role under the National Park Act and the bureaucratic system to arrest squatters.

Under the Act, we ban people, but they are still living on the edges. We have to monitor. If we meet them in the national park, we arrest them [National park interviewee: 9-05-05]

Officials have to investigate and arrest squatters. They can arrest intruders under the Act. This is quite clear official practice [National park interviewee: 9-05-05]

The protection of the national park as a national treasure is part of bureaucratic ideology. A narrative of a health official interviewee is an explanation of why national park officials need to protect the national park area.

This national park is likely a national treasure so when they [national park officials] survey, they have to make out an area of national park the same size as it is determined in the Act because national treasure cannot disappear [Health official interviewee: 29-04-05]

Based on a health official's understanding of the bureaucratic ideology, official property or national treasure is most carefully maintained by officers. He used the term 'national treasure cannot disappear' to make clear a practice carried out under bureaucratic ideology. He argued that because the national park is a national treasure, national park officials have to keep the area of the national park at the same size as required in the initial national park announcement. His view was that if any piece of national park area disappears, national park official concerned may be punished, therefore, national park officials need to use officially acceptable tools such as maps and posts to confirm the boundary of the national park area.

However, local expert interviewees claimed that the Karang cannot own land in the PLON. They pointed to the Karang as significantly distinct from other 'normal Thai villagers'. Local official interviewees claimed that the Karang are unworthy, ungrateful and uneducated because they did not develop the land that the government provided for them. Instead, they sold or rented the land to other Thai groups. In addition, official experts allude to some Karang being squatters who act as thieves in their living lands in the national park area. Furthermore they argued that the Karang cannot have rights to use land in the PLON because the Karang are a non Thai citizen group.

The problem is that the land is only available to Thai citizens but the Karang, who live in Thailand, are not really Thai citizens [Health official interviewee: 29-04-05]

With respect to land belonging to the first user, there are narratives and arguments from the Karang interviewees to claim the land in the PLON.

Forest officials did not know that the Karang have been settled in the par lar uoo noi for a long time. Once the national park was announced, park officials who make the national park rules sit in an air conditioned room, they did not see the real area, they simply follow the map. They did not see whether people lived in the area or not, they just saw the area as completely forested with natural integrity. They should be looking at the area, witness whether there were people or not [Karang interviewee:1; a farmer and a village leader: 19-04-05]

At the time of fieldwork, under the conservation policy of the government, the Karang could live in the PLON in the same location that they did before the national park announcement. Two Karang who were born and have long lived in the PLON have mechanisms to declare their rights in their living land by using evidence to prove their historical use of land. They refer to a long history of dwelling in the area as proof of their lengthy occupation of these lands. This evidence was used to assert their right to be considered the owners of the land because they were the first people to use the land. The statements below summarise the discourses of the Karang as first settlers.

For long time my father lived here, died here. My father and mother were born here.. that big wood apple tree I planted on the streamside [Karang interviewee:10; a gardener and a headman of ritual practice: 18-04-05]

Father has been living here for a long time since he was born. Now father is more than fifty years old, [Karang interviewee: 9; a farmer and a wild animal hunter: 10-04-05]

The Karang recounted the history of fruit tree planting to confirm that they were long-time occupiers of the land. They referred to their large cultivated trees, such as mango, tamarind, jack fruit, and wood apple as evidence of their long occupation of the area. This was used as evidence/proof of their claim that they should be the land owners. The following dialogues are excerpts from interviews.

My father died here a long time ago. Looking at this mango, my father planted it. It is an old one [Karang interviewee:10; a gardener and a headman of ritual practice: 6-04-05]

I have been used this land long time almost twenty years, at the beginning, I planted many sweet tamarind trees, mango trees, and wood apple trees but once last year when big flooding occurred, all cultivated plants were evacuated. I abandoned land for several years and I just came back to use this land again for a few years ago. So there are not big fruit trees in the land [Karang interviewee:7; a farmer: 15-04-05]

The Karang attempted to use lands in the national park area. They had used evasive practical tactics to squat in national park area. The paragraphs below illustrate some of the evasive practical tactics.

Lang-thong is a principle to extend the area of land in use. Some Karang in the PLON had practical tactics to extend their living land by, for example, clearing the weeds from under the large trees in order to deceive the officials. They reasoned that officials could not see from the distance that the area under the large trees that are being cultivated. According to a Karang farmer who has been living in the PLON more than 20 years states:

Now I cannot cut down big trees, but I did lang- thong. Lang- thong is clearing out small trees and keep big trees, we cut weeds, vines, and grass and then we plant rice and chilli in the land under the trees, officials cannot see this from the track [Karang interviewee:7; a farmer: 25-04-05]

After the process of *lang-thong* (cutting the small trees and keeping the big one), they practiced *kand*, (this is a practical tactic to kill a big tree by taking its bark). This kills those trees where they wish to plant crops or cultivate other trees. The definition of ‘kand’ is given by a Karang farmer as a statement below.

Certain Karang clear the base of trees by taking off its bark, in order to kill them die [Karang interviewee:5; a farmer and a midwife: 12-04-05]

It is notable that the conflict over land resources emerged from dialogues of the interviewees. Karang interviewees told me that they were bullied by national park officials who tried to evict them from their living land. Two quotations of the Karang farmers who were born and have long lived in the PLON are examples:

I was born here and my father died here but when national park officials came to here, they wanted my family to move out. They ordered me to move from here [Karang interviewee:10; a gardener and a headman of ritual practice: 9-04-05]

I told them [national park officials] that we have been living here from the era of our grandparents, why do you [national park officials] have to forbid us residing. If you forbid us, you should have done this in the early time, not after we have used this land [Karang interviewee:7; a farmer: 1-04-05]

The Karang also challenged national park officials citing different meanings of land ownership. For example, a Karang interviewee stated that she debated with an official about her long settlement history as evidence to claim land ownership. She criticised national park officials because they ignored her rights to own her living land.

One cause of the conflict of land owners is based on the unclear boundary between the Karang living land and the national park. This ‘unclear boundary’ leads to conflict between the Karang and national park officials with regard to squatting. According to a health official interviewee, ‘the Karang do not know where the national park boundary is’, thus to say that the Karang have squatted in the national park area is difficult because it is unclear where the boundary of the national park is.

Whatever, national park official did a survey and determined whether the boundary of national parks is in this village or not. But when the Karang came in, they did not know where the national park boundary is [Health official interviewee: 5-05-05]

The health official explained that the conflict occurred because each side used different evidence to support their claims, and each refuted the others' evidence. The Karang attempted to claim the land by referring to the evidence of the length of time of living there, but national park officials used the official documentary evidence to claim the National Park's rights to the land. From national park official perspective of this land conflict, they were correct because they had better evidence to support a claim to the area as the national park. The Karang were wrong, and were only squatters, because their evidence about living there was unacceptable for the purposes of gaining land rights.

This is a problem, they see it in different ways. This side [the Karang] said that they have been living there for ten years. The other side [national park officials] said that they called for everyone to claim their living land before that national park was set up: where were you [the Karang] living at that time? They [the officials] use existing evidence as a reference [the living in national park area]. According to the officials, these official evidence materials are more reliable and accurate [Health official interviewee: 5-05-05]

Officials gain acceptable evidence, they have evidence to remove the squatters, but the Karang have no evidence to support their claim, so they are considered as squatters in the national park area [Health official interviewee: 5-05-05]

In addition, a national park interviewee said that although national park officials have enforcement powers, the Karang still squatted in the national park area, as he stated;

Under the Act, we ban people, but the Karang are still living on the edges. There is no fence. We have to monitor. If we meet them, we arrest them [National park interviewee: 4-05-05]

It is notable that the arguments about the land resource indicate a struggle between the Karang and local experts regarding claims as to who are the rightful land owners in the PLON. Different interpretations of legal intention were advanced to argue their cases. The officials believed that the Karang were too irresponsible and unable to develop the land. In addition, they alleged that some Karang squatters claimed land use as their right in the national park area. The officials maintained, but without proof, that the Karang cannot have the rights to use land in the national park because they are dishonest, and are a non Thai citizen group. Moreover, national park officials claim they have legitimate responsibilities to control the squatters under the legal requirements of the National Park Act and other relevant regulations.

In addition, the official interviewees claimed that the Karang differ from 'normal' Thai villagers, because they are not Thai citizens, they are illiterate, hunt wild animals, and squat

in the national park. A national park interviewee considered that the Karang are unable to develop to modern living standards. He used the expression ‘they like to live in the forest’ to describe the innate character of the Karang as forest people who want to live in the national park. As he points out:

The Karang do not like to live in the designated zone. They like to live in the forest
[National park interviewee: 28-04-05]

However, for the perspective of non park agencies, the Karang were benign because they lack an opportunity of official support, unlike rural Thai people. A health official interviewee stated the Karang do not favour living in the reformed zone because they are not accustomed to settlement like general rural Thai people.

The Karang do not feel free when they live in the project zone [designated zone] so they sold the land and moved out [Health official interviewee: 11-05-05]

In addition, a teacher interviewee pointed out that the Karang are forest people because they dwell near the mountains. A local Karang expert held the view that the Karang had lived in the forests and mountains for a very long time. He was convinced that the Karang have a long history of living in the forest. His claim is given below:

Since their ancestor's time, the Karang have always lived in the valleys or the forest
[Local Karang expert interviewee: 8-05-05]

The conclusion in this section is that the PLON was constructed as a special space under two different conservation policies. The PLON has two roles: to protect natural resource values and support the Karang livelihood. This area of specialised usage reflects the practice of exclusion operated by officials and also illustrates resistance by the Karang. Karang practices determined by the use of scientific evidence and personal observation were advanced by official local expert interviewees to argue that the PLON is a national treasure with significant natural resource values, but that it is at risk from water pollution and forest clearance and its endangered species are threatened by Karang activities. In contrast, the Karang argued that the PLON is in good natural resource condition without any pollution; rather they feel violated by national park officials who want to evict them from the PLON. The argument of Karang reflects their struggle and resistance to official power.

In addition, there is conflict about the land rights issue. Local experts claim that land in the PLON is a national treasure controlled by the national park under the appropriate Acts. Meanwhile, the Karang claim that they have the right to the land in the PLON. They offered evidence such as long occupation of the land, and the planting of fruit trees to argue that they were the original users of this land. The conflict over the land rights in the PLON still remains as far as the Karang and national park officials are concerned, as there are different interpretations of legitimate 'land owners'.

The PLON is a space of contest of power between national park official and the Karang. The local experts have a stereotyped image of the Karang as a tribe who may impact on natural values. As Sibley (1995) argued, image is a significant tool in constructing a stereotype of a minority group as deviant. This image of the Karang provides reasons for excluding them from the national park, or creating specialized space and spatial rules to control them. In practice the Karang occupied land is not suitable as a reformed area as the neighbouring settlement is designed. Under the National Park Act, official agencies cannot support infrastructure in the PLON. This is because the PLON is required by national park officials to be a space of natural integrity, water sources, and wildlife threat. So the PLON has no electricity, water supply and dirt-surfaced roads. Figure 6-6 illustrates the different situations in the two areas. The Karang in the PLON used the tracks for walking and drank water from creeks. They built houses with simple materials and plant crops in a traditional manner under the national park requirements. The local service officials, such as the health official, teacher, and agricultural official do not offer services to the Karang in the PLON. If the Karang need the official services, they have to go to the village centre in the reformed area.



Figure 6-6 Comparison of a walkway in the PLON in the left-hand picture and a dirt-surface road in the reformed zone in the right-hand picture

The national park officials identified a clear boundary in the PLON to enclose the area in which the Karang live. This classification of land is produced by scientific knowledge (Agawal, 1995; Sibley, 1995). This infers that an area and borders between people and the forest are determined and controlled by officials. Roth (2004a) claims that this principle to separate an area is simply for preventing human disturbance in the national park and also so park officials can authorize their activities under the National Park Act and other relevant regulations.

The official zoning and the boundaries of the land are not accepted by the Karang. They still conduct activities to enlarge their living land into the national park, and gather wild plants in the PLON without negotiating with national park officials. They resist the official boundary, space and rules.

6.4 Activities and Knowledge within of the Kaeng Krachan National Park

This section outlines other themes of study apart from the PLON issue. The purpose is to draw attention to the perspectives and practices of interviewees on natural resources, particularly in the Kaeng Krachan National Park. Four themes are presented here: the national park as a multiple use space, a space of power struggle, a space to serve human and non-human values, and a space of different biological knowledge.

6.4.1 The park as a multiple use space

The national park area contains several activities of national park officials and the Karang. Activities of national park officials consist of resource protection and maintenance, support for research, tourist services, and public relations. A national park interviewee told me that protection, maintenance, and biological research were the main tasks of the Kaeng Krachan National Park officials, but the officials are also involved with tourist services and public relations as a result of the new government policy.

Under the National Park Department's policy, the two main tasks of the Kaeng Krachan National Park consist of the protection and conservation, academic documentation and research on diversity and the biological system. But the new government policy emphasises activities for tourist services, eco-tourism, and maintenance of the public relations with people in the buffer zone [National park interviewee: 28-04-05]

The national park is a space for performance of conservation science. For this reason, the national park area was divided into several zones to support park activities (see section 4.3). A national park interviewee claimed that each of the zones do not have unequal areas depending upon biological sensitivity of the area. He gave more detail that if the zone located near a village is sensitive to human occupation, it has less area than other zones in the core area. The zonings reflected the official aim to facilitate conservation that prevents people disturbing things in the national park. It also makes clear in which places national park officials can use their power under the Act to arrest invaders, hunters and loggers.

In addition, national park officials conduct activities to protect natural resources in the national park. They investigate certain areas in order to control invaders, loggers and hunters. They support other agencies researching biodiversity and endangered species. A national park interviewee advised that national park officials accept help from biological researchers studying endangered species because their findings can support the protection of wild animals.

One project is under by Dr. Anut. His team came to survey wild animals in the national park and made a wild animal database for us. They took photos of animals and used a GPS survey. They encountered a crocodile by using camera-trap recording. His research also investigated tigers, the types, numbers, and foods and habitats [National park interviewee: 4-05-05]

There are approximately two hundred elephants in the national park. The Environmental Thai Institution (ETI) helped us to survey elephants inside and outside the national park area. They surveyed elephant defecation and their food sources in the dry and rainy seasons [National park interviewee: 4-05-05]

On the other hand, the national park is a place for the Karang activities. On days when the Karang were interviewed in the study area, I noted that they have many activities in the national park. They used wild animals and wild plants to supplement their basic needs. For example, they used the gall of snake, bear and monkey for producing herbal medicines. They hunt frogs, eels, turtles, soft-shell turtles, fish, and shrimp for food. Moreover, the Karang carry on their traditional activities in the national park. As mentioned in chapter 4, the Karang used wild trees for their traditional practices and ritual beliefs such as the *Bu-shi-bar* worship and the traditional hanging of babies' placentas. It is notable that the activities of national park officials and the Karang in the national park reveal their different objectives on the use of natural values to serve their needs and their spiritual belief.

In summary, the Kaeng Krachan National Park is not only characterised by official activities designed by the national park agency to support national goals, such as endangered species conservation, scientific research and tourism. In fact, the national park also contained Karang unofficial activities that are unwanted by the national park agencies. Therefore, in practice, the national park's functions are serving officially and unofficially both human and non-human values.

6.4.2 Space of power: enforcement and resistance

The issue of enforcement appeared in narratives of local expert interviewees. The national park officials have the power to manage natural resources under official regulations. The statement below refers to the actual practice of national park officials under the National Park Act.

The National Park Act controls the Karang, so they cannot bring anything even a tree leaf out of the national park. They cannot even turn a stone in the national park [NGO interviewee: 30-04-05]

Local expert interviewees argued that natural things belong to the national estate, so everyone has to accept that they come under the requirements of the official rules. In this

sense, the Karang and the supernatural are not regarded as having legitimate owner rights in the public area.

Nothing in the national park can be used, it is illegal and forbidden under the Act [National park interviewee: 9-05-05]

The national park officials have responsibility in the national park. They act under their legal responsibility [NGO interviewee: 12-05-05]

The National Park Act is a tool of official power for protecting wild animals. The national park officials can arrest anyone who poaches any wild animal in the national park area. Under their legislative responsibilities, they conduct several methods of surveillances for protecting wild animals. This is clear in the narrative of a national park interviewee as below.

Last night around 7 p.m., the Karang came across to hunt deer at the waterfall counter. We went in to wait, we heard the sound from the 'gap gun' [a kind of guns made by the Karang for hunting]. After they shot, we needed to counter shoot to show them that we are still watching. They ran quickly [National park interviewee: 9-05-05]

In addition, the national park interviewee told me about the illegal practice of fallers who cut down trees in the national park. He pointed out that illegal loggers have weapons and more experience to avoid arrest.

Previously the Karang cut a tree at an upstream site. We went to arrest them, but we could not arrest them. Villagers told us that the loggers knew the official car. Later, we changed the way to access by walking across the hill. We had to walk more than half a day, until we met them, but we could not arrest them because they run quickly and were armed [National park interviewee: 9-05-05]

For the Karang, the challenge to state power is apparent in several actions, such as evasive discourses and resistance practices. Resistance is purposely acting against some disliked entities with the intention of changing it or lessening its effect (Cresswell, 1996 p22). The Karang had bad experiences when they were arrested by national park officials. One Karang interviewee said he was arrested because he killed a langur. He had no money for the fine, so he was imprisoned for more than nine months.

Three years ago I was arrested because I killed a langur and brought it to give to an assistant village leader and the village chief. When I went near the village I met a car with national park officers. They arrested me and gave me a fine of more than 10,000 Baths. But I had no money for the fine. They put me to in jail. I was jailed for nine months and seven days [Karang interviewee:7; a farmer: 15-04-05]

Arrest by national park officials is a concern for other Karang who hunt wild animals or cut trees in the national park. They have developed ways to avoid arrest. Several times in the fieldwork interviews with the Karang, it was heard that they have many tactical ways of avoiding arrest when they use the national park resources. One tactic is evasive discourse, with the Karang using abstract words to hide their activities in the national park. They never directly told me that they hunted animals or gathered wild produce in the national park. They used different terms to imply that the locations of their wild plant gathering and wild animal hunting are not in the national park. These terms are ‘on the mountain’, ‘in the stream’, ‘in the deep forest’, ‘there’, ‘up there’, and ‘in the forest’. None of these terms mentions the national park area. Sometimes, they used an idiom to imply a principle of wild animal hunting in the national park. For example, they use the idiom ‘bring dogs to travel in the forest’. This idiom means that they bring dogs to hunt wild animals in the national park. This showed their evasive tactics to challenge national park officials with regard to using natural resources in the national park without being arrested.

Their traditional ways of using natural resources in the national park reflected a challenge to the state power. In several interviews with the Karang, they said that they have their rules related to natural resource owners in the forest. The rules are constructed and used within their society to provide ownership of certain wild fruit trees and bee trees⁴ in the forest. The rules required that the first person who found these trees would gain ownership of wild fruit trees and bee trees. Under these rules, other Karang do not use wild plant trees that are already ‘owned’, unless ownership is relinquished.

We have our rule to hold the fruit trees and ton poun [a tree with a bee's hive]. The first person who found the tree is the owner. The person has to show that they are the ownership by clearing up around that tree base in order to let other persons know. However, if the owner does not clear up in any year, we consider that the tree has no owner, so anyone can own it next year [Karang interviewee: 6; a farmer: 5-04-05]

In addition, the traditional ownership of trees and their rules in the national park, such as *bu-shi-bar* worship, or hanging of baby's placentas as presented in chapter 4 reflect their resistance to the national park rule. The Karang retained the place and its role within the Karang group, and constructed rules for practice with the traditional trees and places.

⁴ Bee tree or *Ton Poun* is a special tree that wild bees used to make their hives every year. Each year, a bee tree can hold 10-20 bee hives. The Karang have to own the bee-tree in order to gather wild bee honey.

However, some outsiders do not believe in traditional places and trees, or in the spiritual powers. In addition, traditional places are overlooked by official experts. When the officials established the national park, they disregarded the traditional places and they did not recognize, or take account of the Karang rules for their traditional places. As a national park official states ‘nothing in the forest can be used’, indicating the official authority acts regardless of traditional practices. This means that the traditional trees and rules in the forest have been made to disappear under the official park management.

Another Karang activity in the national park, which indicates their challenge of the state power is the adaptation of their traditional shifting cultivation. The Karang interviewees told me that they use the national park for planting chillis and some vegetables. They selected an area where a decomposed trunk of tree has fallen down, cleared weeds and sowed chilli and other vegetable seeds a month before the rainy season; after three months, they came to gather chillis and vegetables. One Karang interviewee told me that planting chillis and vegetables in such places is good because there is good soil with rich fertilizer and without grass. They did not look after these crops but they could gather crop products all year round. Sometimes, they stayed in the forests for three or four days to gather the crops. They argued that they planted the crops without cutting trees, since if they cut the tree in the large area, they will be arrested by national park officials. As a Karang interviewee stated ‘we did not cut tree, we just sowed crop seeds, there is no reason for park officials to arrest us’.

In addition, the power struggle embedded in the narratives of interviewees also relates to evaluating other groups as natural resource destroyers. When I talked with local expert interviewees about the Karang, Almost all official interviewees argued that the Karang are unlike Thai rural villagers. They indicated that the Karang are still submerged in a cycle of illiteracy, poverty, and ill-health. A health official interviewee told me that the Karang cannot read or write in the Thai language. The term ‘illiterate’ is employed to indicate the Karang identity and is seen as obstacle to enhancing their conservation awareness.

A national park interviewee devalued the Karang by pointing to the status of certain Karang who are not Thai people, and are considered as dangerous to wildlife in the national park. These Karang characteristics are linked to natural resources because they are wild animal hunters.

Karang are a small group of people who are living on our land. They still cross to areas in Burma. These people were 'not managed' [National park interviewee: 28-04-05]

What is the wildlife conservation by the Karang... their conservation is in their mouth.. because almost one hundred percent of Karang hunt wild animals. They hunt for food in their group. We investigate, they run away. But after we leave, they suddenly start hunting again [National park interviewee: 9-05-05]

For a national park interviewee, the Karang destroyed the natural values, so he disagreed with the concept of the Karang 'people live in the forest in harmony with wildlife', as he states:

I think it is impossible for the Karang to live in the forest without disturbing the wild animals. In fact, when they see a barking deer, they shoot it. They like doing this. The idea and academic principle, such as the project of 'small house in big forest' that support villagers living in the national park is impossible in practice [National park interviewee: 9-05-05]

He strongly agreed with the principle of evacuating people from the national park. He claimed that this principle is a better and easier way to protect wild animals in the national park and control wild animal hunters. On the other hand, the Karang interviewees devalued national park officials by arguing that the official principle of wild animal conservation is an ineffective model. The statements below are examples. They judged the national park management as unsuccessful. They pointed out the problems because national park officials are unable to control the forest area.

When there was no park, there were plenty of animals such as tigers, elephants, bears, barking deer. But when the national park was established, the officials forbid us to use the park resources, but wild animal numbers have declined [Karang interviewee: 2; a farmer, a folk doctor and a headman of ritual practice: 13-04-05]

There are plentiful wild animals in Myanmar but there are a few animals in forest in this country. This is because the officers do not properly control the area [Karang interviewee:8; a gardener and a hunter: 5-04-05]

All in all, there are opposing activities between national park officials and the Karang in the national park. The national park officials use their official power to protect natural resources in the national park, whereas the Karang attempt to use the park resources. The

major challenge occurs when national park officials use their power to arrest the Karang, and the Karang develop evasive ways to resist the official power.

6.4.3 Natural space for serving human and non-human values

This section reveals the perspective of interviewees on how the natural resources in the national park serve human and non-human values. In the aspect of non-human values, a national park interviewee's perspective was that the Kaeng Krachan National Park contained significant natural values. During his narratives about wildlife, he always used terms like 'the forest has complete integrity' to indicate the quality of natural resources in the national park.

Kaeng Krachan National Park has a diversity of wild animals, such as tiger, elephants, deer. Actually tigers or elephants live in this park but they walk across the border because they do not know where Thailand or Myanmar area; they move to obtain food and complete their life cycle. For example, today a tiger living here but tomorrow it will be living in Myanmar area. However, when Burmese fight with minority groups they move to Thailand, if this area has more hunters, they move to Myanmar. This is their principle of safety and a factor influencing the conservation of these wild animals [National park interviewee: 28-04-05]

The narrative of a national park interviewee quoted above is a representative example to characterise the issues on biodiversity. It indicates that habitats of wildlife cover a large scale. Some wild animals can cross the boundary between Thailand and Myanmar, and the ethnic groups in the two countries were a cause of uncertainty in biodiversity management.

A national park interviewee proudly talked about some endangered species in the national park, such as freshwater crocodile, tiger, elephants, deer, and barking deer. He used a map and photos to indicate the locations of the habitats of these endangered species in the national park (see Figure 6-7). For him, endangered species are important in considering and upholding the values of the national park.



Figure 6-7 The national park interviewee using a map to point out symbols indicating habitats of butterfly, hornbill, tiger and freshwater crocodile

When he talked about wildlife in the national park, he used terms like biodiversity to point out the various kinds of wildlife in the national park. These wild animals that appeared in his narrative have significant natural values. This is indicative of the meaning of the biodiversity concept as used by national park officials.

From the perspective of national park official, the information on wildlife and wild plants, particularly endangered species, in the national park is significant and important. He accepts help from biological researchers to study endangered species because the study results can support the protection of wild animals. Results from many biological researchers in the Kaeng Krachan National Park have recommended that the best way to practice wild animals were strict measures to control human activities in the national park (Grassman, 1999; Ngoprasert et al., 2007).

Big valuable hardwood trees in the national park are also seen by the national park interviewee as a significant value in the national park. When such a tree is cut, national park official considers this as a serious problem. The statement below is typical.

Three months ago, big red markar (Afzelia xylocarpa; a valuable hardwood tree) near the par lar ouu noi was cut. I set up a team with 2-3 persons to investigate in the area, and camped there for several nights. I wanted to arrest the fellows because they will carry on the timber cutting at night time [National park interviewee: 9-05-05]

From the perception of the Karang, certain wild animals in the national park have special values with their spiritual beliefs. Some of these natural resources are linked to the spirit holder. For example, the Karang believe that wild animals and wild plants in and surrounding a swamp in the forest belong to a swamp spirit. They avoid hunting wild animals and cutting wild plants in and adjacent to the swamp because they believe in the power of the swamp spirit to make them sick or dead. There are, therefore, various wildlife forms in the area, which are not subject to human disturbance.

A swamp in the forest contained many kinds of animals such as elephant, deer, wild pig, and tapir. They came to the swamp, all the time [Karang interviewee:8; a gardener and a hunter: 16-04-05]

For the aspect of human values, wild plants and animals in the national park are valuable to humans in several ways, such as for tourism, biological studies, and for the indigenous people who live and take advantage of wild animals and plants.

A national park interviewee argued that wild plants and animals in the national park were an attractive resource to support tourism and scientific study. The study of wildlife in the national park is one of the reasons for of the national park's establishment.

The study of wild elephants is divided into three phases. The first stage is data survey in the area; after the data survey the number of elephants and elephant movement are monitored. The second stage surveys the area about water source and food sources, and the impact of villagers. The third stage analyses why the elephants move out of the national park area, and how to solve such problems [National park interviewee: 4-05-05]

In addition, a national park interviewee argued that the Kaeng Krachan National Park is a resource serving recreation activities. Under the government policy, the national park has been opened for tourism.

Many tourists come here all year around, about fifty persons per weekday, and more in the weekend. During the high season, many vehicles and tourists come here [National park interviewee: 28-04-05]

From the perspective of wild plants and animals serving the villagers, the national park interviewee told me that the Karang illegally hunt wild animals and cut wild plants: he stated 'the Karang are hunters. None of them do anything, they want to hunt wild animals in the national park '. He disagreed that the wildlife in national park should service the needs of the Karang because from his perspective, the Karang are not significant as a national value.

Other local expert interviewees thought that wild animals and plants in the Kaeng Krachan National Park should provide for the Karang's basic needs, such as food and medicine. Similarly, the narratives of the Karang interviewees reflected their use of wild animals for supplementing their basic needs such as food, herbs and goods.

It was evident that all interviewees agreed that the national park contained important resources with special values. However, some aspects about the integrity and value of natural resources embedded in the interviewees' discourses were different. For the national park interviewee, the integrity was focused on the protected wild animals and valuable plant species. These species were taken to be important and significant in the national park values. For other non- park interviewees, the integrity related to the variety of herbal plants and foods. They support the use for sustainability. This variety can also be related to the use of wild animals and plants by the Karang. For the Karang, the various kinds of wild animals and plants in the national park are related to their everyday practices, and closely linked to their sustenance, way of life, and traditional practices.

6.4.4 Space for different biological knowledge

The Keang Krachan National Park is a source of biological knowledge. The biological knowledge can be traced through the interviewees' talk about natural resources that they have experienced in the national park. Both local expert and Karang interviewees have different perceptions about wild animals and plants, and have different ways to explain the numbers and trends of wild animals and wild plants. Table 6-1 characterizes biological knowledge that has been traced from the interviewees' dialogues.

Biological Knowledge	Karang's biological knowledge	Experts' biological knowledge
1. Knowledge source	From experience in the forest	From scientific research and survey in the national park
2. Knowledge storage	In the memory of individuals	In texts, such as reports, plans, and research documents
3. Knowledge transfer	Within their community by oral dialogue and body language	By media such as map, photo, reports, and GIS data

Table 6-1 Comparison of biological knowledge between the Karang and local experts

For local expert interviewees, the source of information on wild plants and wild animals is based on scientific evidence. The national park officials collect information on wild animals and wild plants in the official working places and the material is stored in the forms of books, maps, photographs and on computers. The teachers have the recorded data about herbal plants that the Karang gave them to plant in a school herbal garden.

In addition, local expert interviewees use data based on scientific evidence to evaluate the wild animal status and anticipate changes in wild animal numbers in the national park. The national park interviewee states that a team of researchers came to survey wild animals, they encountered freshwater crocodiles using a camera trap. The data on wild animals was collected into a computer database. In addition, the local expert interviewees always use numbers or statistics to communicate or transfer information on what they know, or for requesting action on the natural resources and endangered species.

Meanwhile, the Karang have been living in the forest for more than two generations. They have long experience of the characteristics of the wild animals. In addition, they are acquainted with various species, numbers and size of wildlife in the national park. In their narratives about their experiences in the forest, there are many kinds of wildlife that were revealed in Karang dialect and the Thai language. Names of wild animals are revealed in the Karang dialect, such as *Koup Toope* (a kind of forest frog), *touw leoung*, *touw hogkar*, and *tow leang* (names of turtles), *pikado* (a kind of bird), and *ya*, *kor*, and *ko* (names of fish), and in the Thai language, such as elephant, tiger, bison, wild big, deer, bark deer, langur, bee, minnow fish and monkeys.

Many cobras are near the creek, nobody eats them, we do not eat, we use only its gall, to get its gall. It is a big snake. It is a pillar size and long to 5 va. Sometimes they come to eat Koup Toope [forest frog]. The forest frog has a big body with small long legs. At night time after the rainy season, it sings bubb bubb bubb [Karang interviewee:7; a farmer: 15-04-05]

There are many kinds of turtle, such as touw leung touw doum, tar paump naam and touw hok. The biggest touw hok I saw touw hok at that time was about two souk [about 1 metre]. They live on the mountain, during the rainy season, they eat bamboo shoot, making a sound like pook pook pook, similar to the sound of a cow when it eats bamboo [Karang interviewee:2; a farmer, a folk doctor and a headman of ritual practice: 21-04-05]

A bison is about 500 kilograms. It is bigger than a cow and more ferocious. They are still found in the deep forest. Bison have not disappeared but it declined, as well as, deer, elephant, tigers. Now wild pigs are plentiful at narloun [the time that wild pigs move from the boundary to the study area to find rice for food nearby the rice harvest period (8th to 9th lunar month). Many hundreds come from those boundaries, they walk along a stream and they come back again [Karang interviewee: 9; a farmer and a hunter: 10-04-05]

The Karang interviewees knew the Karang names of wild plants in the Karang language, such as *ta nar di kou*, *dee ja jeu*, *li ce ment*, *tow wan pleang* (names of herbal plants) *kee leak* (a name for hardwood trees for house building), *tar kro* (a type of palm), *chouk heaw* (a wild tree for traditional practice), and names of wild plants in Thai language, such as *maarkar* (*Azelia xylocarp*), *yay-ka* (a kind of grass), *ton chai* (a softwood tree), *satou* and *leang* (a kind of wild fruit trees). In addition, they knew kinds and sources of herbal plants in the forest, and which parts of them to use for herbal medicines. They knew where they can cut palm leaves, bamboo trunks, and poles for their house buildings.

This is li ce men [a name of herbal plant]. It is used when feeling faint, feeling dizzy. I cut its trunk and ferment into liquor to make a liquor medicine [Karang interviewee:2; a farmer, a folk doctor and a headman of ritual practice: 24-04-05]

This tree is called kumlang sour klorng [a name of a herbal plant]. I use its trunk to ferment liquor [Karang interviewee:10; a gardener and a headman of ritual practice: 18-04-05]

The characteristics of wild animals and plants in Karang narratives are from their memories of what they themselves, see, touch, and hear of such wild animals. For example, they knew that there were tigers around from hearing tiger's roar. Another example is the estimation of the abundance of fish and crabs in the dry season. This is because they can see more fish and crabs in the dry season than in the rainy season. In addition, the Karang knew that the numbers of wild animals may increase and decrease in different periods. For example, wild pigs are plentiful during the 8th to 9th lunar months, a turtle named *touw hok* can be seen in the rainy season because they leave their hibernation places to seek and eat bamboo shoots. They explain the numbers and size of wildlife with local meanings. For example, they use 'over eating' to indicate that the numbers of wild animals are bountiful. They describe sizes of wild animals using local terms. For example, they explain animal sizes in terms of human strength, such as 'a man could not move a turtle', they compare animal sizes with material things such 'enough for a pot', and 'a pillar size', and they compare animal sizes and lengths with parts of their body such as 'two *souk*' (two elbow of length), and '5 *va*' (five times of the distance between outstretched arms), 'leg size', 'arm size' and 'calf size'.

The Karang transfer knowledge within their group by passing it on through elders, youths, kinships, friends, family members, etc. The main purpose of the transfers was to help the livelihood and well-being of others. One Karang can receive knowledge from others by learning through experience. For example, fathers take their sons along to look for timber for building houses and during this activity, the fathers passed on to their sons their experiential knowledge on tree selection, cutting and removal. Mothers pass on experiential knowledge about vegetable selection for foodstuffs to their daughters. Friends pass on experiential knowledge of places for gathering of wild plants and animals within their groups. Older hunters pass on tactical knowledge to young hunters on how to hunt wild animals in the national park without being arrested by officials.

It is clear that local experts and the Karang have biological knowledge derived from different sources, which are of different sorts, presentation and distribution. These differences may create problems in communication or practice of natural resource conservation. If local experts use their knowledge to manage natural resources without an understanding of Karang knowledge or do not want to use Karang knowledge in their activities, conservation activity may be misunderstood altogether.

In addition, local experts try to offer their way of knowing on conservation, but the Karang do not understand it. For example, in a narrative of a Karang interviewee, she said that national park officials ordered her not to hunt wild animals. They told her that if her group cuts trees and hunts wild animals, they will be arrested. Her response apparently indicates to the officials that she does not understand the official meaning of conservation.

The national park official prohibited the hunting of wild animals. They told me that they keep wild animal for aesthetic enjoyment. They do not explain more. They ban cutting down trees and deforestation. When they said that we did not ask anything because we know that if we deforest they come to arrest us [Karang interviewee:7; a farmer: 25-04-05]

In summary, there are different sources, types, and ways of transferring biological knowledge held by local experts and the Karang. They present sources, types, and status of wild animals and plants in different ways. Differences of biological knowledge lead to different understandings of natural status, risk, and values, and perspectives of resource values serving as either human basic needs or the national estate.

6.5 Local Participatory Conservation Activities

The starting point of this section reveals local expert activities supporting local conservation in the study area. During my fieldwork, the Karang became a target group for many local expert activities working on natural resource conservation. There are several models of expert conservation activities being conducted in the study area. These activities are summarised in Table 6-2.

Agency	Participation model	Participation in the model
National park official	Spy or Informant	<ul style="list-style-type: none"> Set up some Karang who live in the area as ‘spies’ who acquire information about who are invaders, hunters and loggers in the park
School	Demonstrations of <i>yafage</i> plantation and plant herbal trees	<ul style="list-style-type: none"> Invited some Karang to engage in project activities to protect soil erosion, to plant herbal trees in a school herbal garden, and make bio-fertilizer and compost fertilizer
Health official	Village health volunteers	<ul style="list-style-type: none"> Selected the Karang (by the official) to be village health volunteers to help health officials for the health service by reporting births assisting with health surveys and through toilet surveillance
WWF	Training and NRM plan making	<ul style="list-style-type: none"> Train national park guards to work with the Karang, to collect data and analyse problems with the Karang, and set up forums to meet and transfer knowledge to the Karang Invited the Karang to make NRM plan using the principle of sustainable natural resource utilization in the national park and to enhance Karang awareness of conservation issues

Table 6-2 Forms of participation utilized by local expert agencies

6.5.1 Different purposes

Different agencies have different activities and purposes. Some official participatory activities will be presented here. One participatory model held by national park official is to support the protection of natural values. The national park interviewee advised that national park officials employed some Karang who were living in the study area to be ‘spies’. These spies acquire and report news about invaders, hunters and loggers in the national park to the national park office. The national park officials used this information to arrest these illegal persons:

Some villagers living at that the Karang village are our spies, or our informants. We get news from them; they give news of who are hunters, loggers and squatters [National park interviewee: 9-05-05]

Another participatory model is held by the NGO. This model is based on incorporating human values into the sustainable conservation of park resources. The project consists of two main activities. One is to enhance the skill of the national park guards in developing relationships with the Karang. The other activity is to help the Karang preparing a plan to use wild produce in the national park with a sustainable natural resource conservation emphasis.

One activity of the project is to develop the potential of park officers, and stakeholders who are surrounding the national park in order to build up participation. They were trained to develop their skills of production to use media, leadership, and of speaking. Another activity focused on the villagers. We help the Karang to make plans and rules for using wild fruit and honey in the national park. We have a forum for talking together about community status, in the past, current and future, and to build the cooperation in the rules, and plan for use of natural resources in the national park. After that the village chief will send the plan and relevant rules to national park official and provincial office for further consideration [NGO interviewee: 12-05-05]

The two participation models involving the Karang reflect the conflict in the practice between different agencies. This conflict is reflected in the statements of interviewees. The participatory model introduced by the national park is criticized by the NGO interviewee. Their representative pertinently commented that it neither enhances the villager's awareness nor supports the villager's participation in local national resource management. In addition, he viewed the National Park Act as obstructing public participation in the national park management as noted in a statement below:

The National Park Act obstructs public participation because it controls villagers. Under this Act, villagers cannot remove even one tree leaf, or turn one stone in the national park. If villagers cannot do these things, their participation in conservation will not occur [NGO interviewee: 12-05-05]

He understood that national park officials at the policy agency are on the defensive, are unaware of the potential benefits of participation, and do not support a policy of public participation.

The national park department has no budget for participation. The matter of public participation has never been in the eyes of these officials [NGO interviewee: 7-05-05]

The NGO interviewee also pointed out that a participation project in the national park is not easily operated. It needs permission from the central park agencies. In this sense, the activities in the national park that are operated by the other agencies are not simple to operate because they are screened by the central officials.

Every participatory project that operated in the national park needs to be approved from the Committee of National Park Department and the Director General of the Department. Sometimes, a participatory project is difficult to approve because this depends upon the Director General. If the Director has a policy of and concern for public participation, getting permission for the project is easy. If the Director General is not interested in public participation in the national park, the participatory project cannot be implemented in the national park [NGO interviewee: 30-04-05]

On the other hand, the national park interviewee does not accept the participation of the NGO's activities as a mechanism to enhance villager's awareness and build up villager's capacity to manage national resources in the national park. He stated 'the NGOs try to build up awareness of villagers but I don't know how much success they have had. If they gained just twenty percent, I think it is excellent'. He treated the NGO project with disdain because its role is based on a different concept from that of national park official: NGOs try to support the Karang and villagers who live in the buffer zone as people who can use the natural resources in the national park, but the official activities aimed to prohibit the Karang from using the park resources.

6.5.2 Different relationships in participatory activities

Under the same understandings, local expert interviewees considered that they have to improve the Karang. Therefore, they set themselves as 'provider' and the Karang as 'helper' in participatory activities. The Karang are positioned in the expert participatory activities as 'labourer' and 'informants'. In addition, the local expert interviewees understood that the Karang want to participate in the community activity because they want to support from official agencies, rather than to share knowledge or experiences.

During the village monthly meeting, the Karang are plentiful because they want to get land rights [Health official interviewee: 11-05-05]

The local experts viewed the Karang as ignorant, and not being fully aware of official activities. With regard to the bio fertilizer demonstration project, the Karang are viewed as 'ignorant' people because they do not want to know, they do not ask any questions or comment on the official activities. The local expert argued that the difficulty was how to upgrade the Karang awareness.

When they came to produce bio-fertilizer, they had no questions and no opinion. They dislike being the leaders. Their behaviour is more like followers [Teacher interviewee: 10-05-05]

I don't know which principle can help create the Karang awareness. It is harder than building houses, or making roads. It will take time to slowly increase their development [Health official interviewee: 29-04-05]

In contrast, the Karang pointed out that certain manners of local experts are dominant in participatory activities, such as village monthly meetings. The statement below is typical.

When a health official went to school, he was talkative, talked long, speaking with high tone. I do not like him because he was talkative [Karang interviewee:5; a farmer and a midwife: 23-04-05]

Moreover, the Karang argued that it is inevitable that they take part in the expert participatory activities. The village chief gave the reason why the Karang have to participate with official activities.

Many official projects are conducted in this village. We have to accept and participate with these official activities. If we do not accept or join with them, it is not good for us because we are blamed by the officers that we do not cooperate with official activities. Like this, we have no choice to ignore any official project [Karang interviewee: 1; a farmer and a village leader: 11-04-05]

In conclusion, the participatory action is an arena where the local experts place their activities in the study area, and impose expert knowledge on the Karang. However, there is an incompatibility of participatory implementation between different agencies in the study area. For example, the national park and NGO had different participatory purposes in the study area. The national park official model was to use the Karang to support the protection of the park resources, whereas, the NGO project was to support the Karang in using the park resources. This incompatibility reflects the ambiguity of conservation policy at the national and global policy levels and the conflict between agencies in practice. In addition, official participatory activities reflect the incompatible perceptions and perspective between local experts and the Karang.

6.6 Summary

The Karang village is bounded by the traditional national park in order to create a separated space without human disturbance in order to meet conservation goals. The national park officials have many mechanisms to protect the park resources to support the national goals, and these do not take account of the Karang values.

However, the results indicate that the national park contains multiple cultures. It does not only support park official purposes, it also contains different activities of the Karang using the park resources for their livelihoods and traditional practices. The park is a multiple-user space for support of natural and human values. The PLON area of the national park is set aside for the Karang to live in, but national park officials still undertake activities there to protect the park resources for national goals. In addition, the core area of national parks is not just a pristine space of natural resources that is controlled by national park officials, rather it contains many cultural activities of the Karang, and has done so for many years.

The results of this study show that multiple activities of different cultural users in the national park involve incompatible understandings of natural values, status, and biological knowledge. Firstly, different views of natural resource values appear in the narratives of interviewees when they talked about the utilization of wildlife for human needs. The park interviewee viewed it as based on the conservation policy that provides the national park for primarily for conservation and increasing for recreation, and rejected its use for supporting the basic needs of the Karang. This view reflects the orthodox park model which has become embedded within the Thai bureaucratic culture and, until recently, has been regarded as the norm in natural park implementation. Therefore, national park officials asserted that resource values in the national park are managed under the national conservation policy to support human benefit at the national and global scales but not for the Karang at the local scale. The interviewees from non-national park agencies considered that natural resources in the national park should be used for the Karang's basic needs and for the national estate. The Karang, in contrast, regarded the natural resources as closely linked to their basic needs and belief systems. Secondly, there are different perspectives on the PLON area and its condition. The official experts pointed to the PLON as a space of resource integrity, which was, however, threatened by the Karang, and a space contaminated by Karang activities, whereas the Karang oppositely viewed it as a space in good condition, but under the threat of wild animals and pollution resulting from outsider activities. Thirdly, the local experts and the Karang have different types of biological knowledge: local experts use scientific biology, whereas the Karang use indigenous

biology. Differences of biological knowledge lead to incompatible understandings of natural status, risk, and values.

The various activities in the national park revealed the tension and contradiction between different social groups. The results show tension and contradiction in different activities related to land, wild animals and plants, and about participatory principles. Firstly, the land resource in the PLON is a good example to illustrate the tension between national park official and the Karang. As mentioned in section 6.3, the Karang can live in the PLON under a new conservation policy of the Thai government. This is incompatible with the dominant conservation policy and has resulted in contradictory practices. In the PLON area, national park officials created new spaces for Karang living land and boundaries to control the Karang within the PLON. They designated a small piece of land for each Karang family, resulting in a scattered mosaic of bounded settlement through the PLON area. The design and regulation of space to control the minority (Sibley, 1995 p85) reflected the need of the state to control cultural differences. However, the results reveal that there is tension about land rights between national park officials who want to protect national park area, and the Karang who want to claim other pieces of land in the PLON, and attempt to enlarge their allocated living land.

Secondly, the tension between the Karang and the national park is revealed in their respective desires to use or protect wild animals and plants in the national park. Power challenges occur when national park officials protect natural resources in the national park by using scientific tools and the National Park Act, and arrest the Karang because they contravene the Act. However, these state powers were contested by the Karang because they still hunted wild animals, gathered wild plants, and resisted state rules by using their own rules about use of wild plants according to traditional practices.

Thirdly, the tension between different local agencies appears in the different participatory activities that operated in the study area. The participation model that is introduced by the national park supports protection of natural values, whereas those of the NGO support the

Karang using the park resources. Tension occurs because each agency does not accept the other participatory models.

All in all, the park official attempted to separate the places for humans and wildlife. However, the boundaries are ambiguous and lead to tension and contradiction. The tension between national park officials and the Karang appeared most obviously with regard to the resources. Discourse about invaders was constructed by both sides in order to claim rights to the land. The national park emphasized the exclusion of the Karang from the national park, whereas the Karang still claimed that they live in harmony with natural resources.

The tension and contradiction apparent in the study area are not just at the local scale between villagers and practical experts. Rather, they are connected to issue at the national scale. The conservation cultures from central levels are transferred by local experts into local practice. The villagers are subjected to these cultures. They are pushed in different ways between the right to use or no right to use the park resources. The next chapter will discuss this in the light of conclusions from previous chapters and will outline principles and strategies for future management of the national park and of the PLON area.

Chapter 7

Conclusions And Recommendations

7.1 Introduction

The overall aim of this thesis was to investigate the intersection of conservation policies and discourses of cultures and nature in matters of national park management in Thailand. This chapter concludes the thesis. It begins with section 7.2, which summarises the major findings in response to the thesis objectives, followed by section 7.3, where recommendations for natural resource conservation and suggestions for future research are presented.

7.2 Summary of the Thesis Findings

The framework for the thesis findings is shown in Figure 7-1, which has been developed based on the study results. It illustrates that two different global conservation concepts are transferred into the Thai conservation policy system; one is the orthodox national park model based on the concept of separating humans from non human ecosystems, and the other is a relatively new conservation concept based on the ideas of sustainability, participation, and biological conservation that accept humans as part of and living in the ecosystems. The two different concepts are employed by different central agencies in both national policy and local practices. However, the orthodox national park model plays a role as a strong cornerstone in the current Thai natural resource conservation system.

The conclusions of the thesis are presented in the light of the study objectives. Subsection 7.2.1 presents the conclusions in response to the objectives of the evaluation of existing concepts, models and approaches in the central agencies, and of natural resource utilization and conservation in the local community and the national parks. Subsection 7.2.2 presents the conclusions in response to the objective of evaluating the fundamental causes of problems of natural resource conservation.

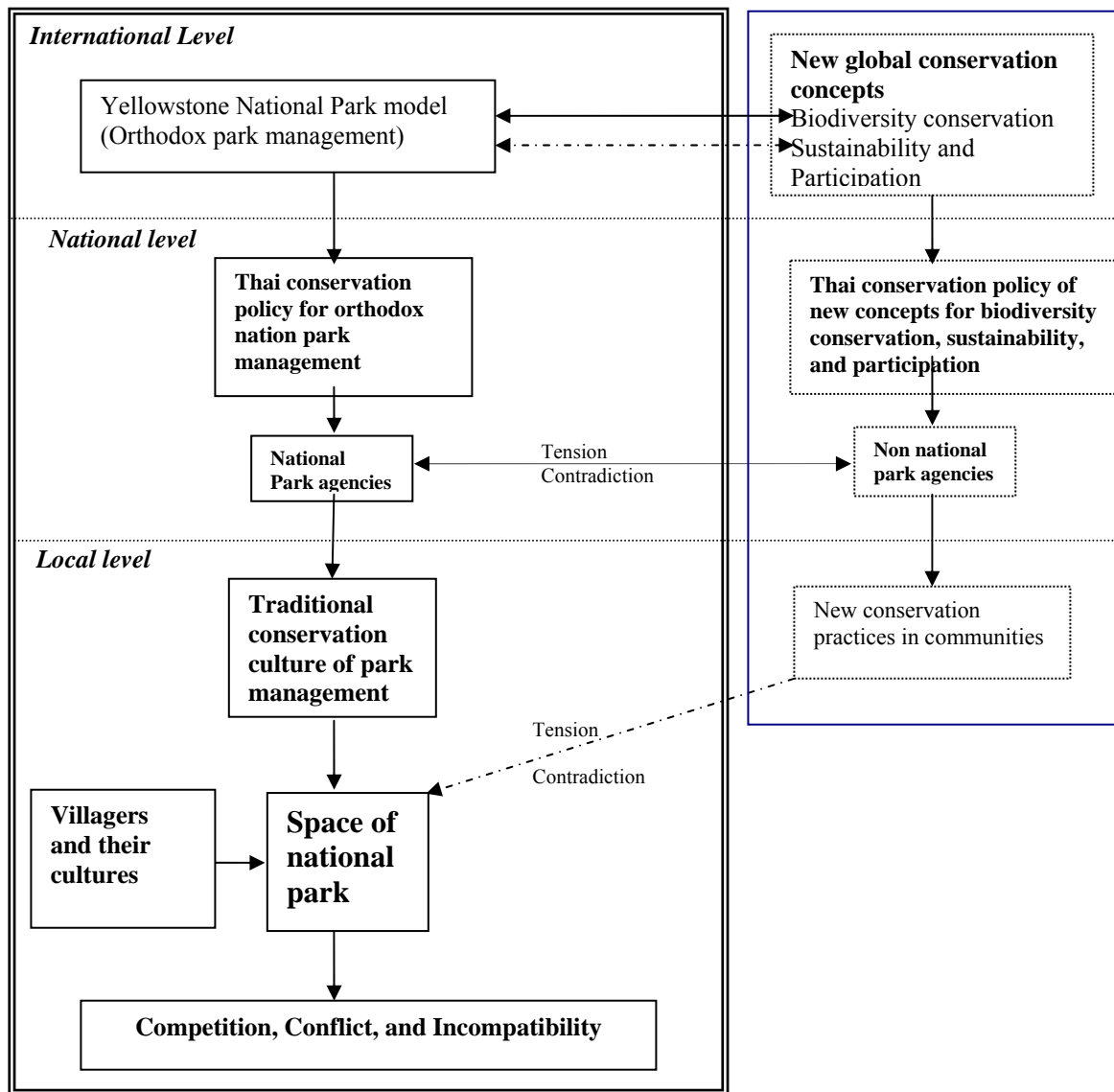


Figure 7-1 The constructed framework for explaining the thesis findings; bold arrows indicate strong influences; the dotted arrows indicate weak influences

In order to explicitly structure the thesis findings, I have drawn on key principles and issues identified by Adams & Hutton (2007). These issues consist of the ideas of nature for conservation, dominance of natural science, conservation benefits, rights and needs of local villagers in the national park implementation, and the relationships between conservation and poverty. Collectively these issues encompass the key elements that structure conservation policies, practices and outcomes at local and national levels.

7.2.1 Evaluation of existing conservation in central agencies and local practice

As outlined in chapter 2, the western Yellowstone National Park model has exerted long standing influence and has been fundamental to the Thai national park system. This concept is based on the division between nature and human settlements. So the ideas of pristine nature and non-human wilderness have been deeply rooted and dominant in the establishment and management of Thai national parks. The thesis findings reveal several aspects relating to the Thai park management. The following paragraphs summarise key aspects of the dominance of scientific knowledge, conservation benefits, and the needs and rights of villagers.

One aspect of scientific knowledge that is central in its support of orthodox national park management is the role that it plays in the scientific classification or separation of things into different groups (Sibley, 1995; Cline-Cole, 1998; Nygren, 1999; Johnston & Soulsby, 2006). These groups, for example, include humans and nature, conservationist and non-conservationist, human zone and natural zone, and endangered, rare and common species. The thesis findings show that the management of Thai national parks has been substantially based on scientific knowledge. Natural science, such as biology, plays a dominant role in identifying and determining resource values in the landscape. It provides ecosystem information supporting the establishment of the Kaeng Krachan National Park. In addition, scientific information from scientific research and scientific experts influences to the decision making of the National Park Board in determining the direction of national park policy and implementation. The thesis findings further reveal that the national park agencies construct specialised conservation knowledge for national park management. This specialised knowledge is transferred to the park managers via the bureaucratic hierarchy. Other kinds of knowledge for park management are screened and approved or blocked by the National Park Board.

Natural science also plays a role to enhance the values of the Kaeng Krachan National Park. For example, biological scientific research into rare, threatened and endangered species in the national park area can support the values of the national park. This information is used

to justify a strict control of indigenous villagers in the national park area. In addition, scientific technologies play a role in the park implementation to demarcate separate spaces between nature and human domains. For example, the boundaries between indigenous living land and the national park are created and determined by GPS, maps and posts.

The benefits of park conservation, as outlined in chapters 5 and 6, include food, ecological research, regulation of flooding, and aesthetic enjoyment services. These conservation benefits from the national park management should provide for local and regional people (Campbell, 2005; Adams & Hutton, 2007; Pujadas & Castillo, 2007). However, in this study, national park officials have not distributed the potential benefits of conservation to indigenous people. National park officials claim that conservation benefits support the park central agency's purpose and the government policies such as tourism and biological resources. In this view, the local indigenous villagers should not obtain benefits from park resources and management.

The needs and rights of local villagers in the park management are currently recognized as significant in the domain of natural resource conservation, as outlined in chapters 2 and 4. However, this study reveals that the needs and rights of local villagers in the park management are not well recognized by national park officials. Discourse of 'unawareness', 'unsuitable knowledge' and 'non Thai citizen', as shown in chapters 5 and 6, are commonly produced by the national park officials. These discourses distort local villagers' needs and rights in the operation of park management.

Although, the orthodox national park concept based on the separation between humans and non-humans has been deeply rooted in the Thai conservation system, it is being challenged by a more recent conservation alternative that is based on concepts of interwoven relationships between people and nature. It represents a relatively new global thinking about a form of conservation that accepts humans as part of and living in the ecosystem. As outlined in chapters 2, 4 and 5, the new conservation concept generated at the global conservation level in the light of sustainable management, has been transferred into the Thai resource conservation system. The thesis results reveal significant aspects of the new

conservation concept in that it is based on a perspective of humans as part of ecosystems, the idea that natural resource values can benefit at all scales, and that every social group has its own knowledge to protect and utilise natural resources, that villagers are recognized in terms of their needs, rights and benefits relating to the park resources, and that poverty is connected with park conservation. These characteristics of the new conservation concept are opposite to those of the orthodox national park concept. The differences often appear in discourses of non-park interviewees in chapters 5 and 6.

The two conservation concepts lead to different perspectives on the national park area, values of the park resources and villagers. The national park agencies based on their specialized conservation knowledge still operate on a desire for division between nature and human society. These agencies view park implementation as supporting human benefit at the national scale. Thus, the needs and rights of villagers with regard to park resources are not taken into account in national park policy and implementation. Meanwhile, the new conservation concept contrasts with the orthodox national park management. The conservation under the new conservation concept is based on deriving a broader range of the rights, needs and benefits from park resources and management.

At the central level, the thesis findings reveal that the new conservation concept has influenced conservation policy and management that previously operated on the basis of the orthodox conservation culture. As outlined in chapter 5, the national park agency has various mechanisms to maintain the orthodox national park model and associated bureaucratic conservation agencies. These include the reduction of conservation networks, classification of social groups, and specialised management in the national park. Meanwhile, new conservation agencies look to expand using models involving participation, sustainability and participation. They attempt to offer new conservation approaches in national park policy and implementation, but the national park agencies resist and try to retain the orthodox conservation practices for park management. This leads to tension between different conservation agencies at the central level and consequently results in problems with the local conservation practices.

At the local level, the study area has become a specialised space where the two conservation concepts and their cultures have been introduced, as shown in chapter 6. Kaeng Krachan National Park was bounded by the orthodox conservation concept into a space for wild animals and plants. The management of Kaeng Krachan National Park reflects the orthodox conservation concept that attempts to maintain and protect natural resource values without villagers' disturbance, supporting values of the national park and national goals. Meanwhile, the new conservation concept now influences orthodox park implementation in the study area. National park officials have mechanisms to modify some pieces of land in the PLON for the Karang livelihood. As many studies about human settlements in Thai national parks (Roth, 2004b; Wong et al., 2007; Hares, 2008) report, national park officials have designated areas for villagers to live in. However, this thesis finding indicates that national park officials designated a small piece of land for each Karang family. The Karang living lands are like scattered blocks through the PLON area. Each family has their living land that is separated from others. In addition, the study area contains multiple cultural activities of various users supporting natural and human values, as shown in chapter 6. National park officials have activities in the PLON area to protect the park resources for national goals, whereas the Karang still live there. Other core areas of the national park are also retained with many cultural activities of national park officials, such as biological research, tourism services and investigation of squatters and of the Karang, such as wild plant gathering, wild animal hunting and traditional rites.

7.2.2 Evaluation of fundamental causes of problems of natural resource conservation

The thesis findings lead to the conclusion that the fundamental causes of the problems of natural resource conservation are the different conservation concepts that generate different decisions and directions of conservation policies and practices. This results in tensions and contradictions between national park agencies and non-park agencies and indigenous villagers. Chapter 5 illustrated these contradictions between different agencies at the central level, while chapter 6 revealed the characteristics of tensions and contradictions in park implementation between national park practitioners and NGOs and the Karang at the local level.

Tensions and contradictions are in the forms of incompatibilities, competition and conflict between different cultural social groups. Firstly, the incompatibility between different conservation concepts and cultures appears in different views of values of humans and nature, different environmental knowledge, and different participatory activities. There is incompatibility between the perspectives of national park officials and non-park agencies at the central and local levels on the values of villagers and the park resources. Different central agencies consider conservation policy as serving distinct national purposes. National park agencies want to exclude humans from natural resources, whereas, non park agencies want to manage human beings as part of natural resources. This incompatibility leads to ambiguous conservation policies and implementation. Secondly, there is competition that appears in the form of the power relations between national park agency and non-park agencies at the central level, and at the local level, between the national park agency and the Karang on the one hand, and between other organizations, on the other hand. The challenge between the national park and non-park agencies at the central level as summarised in chapter 5 is between extending and reducing networks, implementing specialised and integrated knowledge for conservation, and between different purposes of participatory activities. Thirdly, the conflict arises at the intersection between activities of national park officials and the Karang in the land use in the national park. The conflict reflects different practices and perceptions of use and protection by the Karang and national park officials. In the land use conflict, resistance by the Karang appears in various ways, as the Karang still use the park lands for livelihood and cultural activities, despite condemnation by national park officials.

The conflict, competition and incompatibility emerge from the intersections between the different conservation concepts and indigenous livelihoods. If incompatibility between different groups generates tension, it becomes a form of conflict. For example, the incompatibility of land rights, as outlined in chapter 6, has become a land conflict between national park official and the Karang, and competition occurs when each side argues for rights of land use and resistance and contradiction appear when each side is unable to accept the other's claim.

Many studies have revealed the tension in the forms of conflict, competition, and incompatibility between national park officials and indigenous people in Thailand, particularly in regard to the land rights issues (Hirsch, 1990; Sato, 2000; Roth, 2004a; Hares, 2008), and different biological knowledge (Wong et al., 2007). Most of these reports point to tension and contradiction occurring in two dimensions between indigenous livelihoods and orthodox park conservation implementation. However, this study reveals that the tensions in the conservation management relate to three dimensions of the orthodox national park concept, the new conservation concept and the indigenous livelihood. The two different conservation concepts intersect at central conservation policy cross the Karang livelihood at the study area. This thesis claims that intersections between the two different conservation concepts at the central political level and the local practical level impose the limitations on local park management. There are tensions and contradictions that emerged where local practice is subject to different perspectives on human and resource values. They do not occur just at the intersection between the Karang livelihoods and national park official activities at the local horizontal scale, but they are also linked vertically to the national scale.

In summary, I identify fundamental causes and trend of problems in Thai national park management. Firstly is the change in Thai national park management resulting from the changes in global conservation concepts and strategies. The new global conservation concepts and strategies are transferred to Thai conservation system, as Thailand is a member of these international conservation organizations. However, those concepts and strategies led to problems because of incompatibility with orthodox park management, which remains strong in Thailand.

Secondly, there is the challenge of conservation knowledge for national park management. National park agencies still rely on specialised knowledge and natural science for national park management; however, their national park management process is being challenged by other ways of knowing under the umbrella of the new conservation concept. Advocates of the new conservation approaches attempt to play a role in national park policy and management. The new global conservation organizations have the power to change Thai

park management from relying on specialised conservation knowledge to the use of multiple knowledge sources. For example, UNEP plays a role in promoting the new conservation concept to determine the character of national park management and supports the involvement of non-park agencies and NGOs in playing a role in national park management and contributing to a change of direction of Thai conservation policy.

Thirdly, biodiversity conservation based on the new conservation concept that focuses on cooperation in natural resource conservation is growing within and in the areas surrounding national parks. Various approaches derived from the new concept of biodiversity conservation have emerged, and they tend to impact on the orthodox national park management.

Fourthly, the conservation policy of the government is influenced by the new conservation concept. Government policy now allows villagers to live in national parks under certain circumstances, promote tourism activities in national parks, and reform of the national park agencies by including in the Ministry of Natural Resources and Environment. National conservation policy has changed and adapted according to the direction of global conservation and the government political direction. These government policies impact on the orthodox national park management.

Fifthly, issues of social equality are now being addressed in national park management. Social equality is linked to the rights and needs of villagers in national park management, sharing conservation benefits, and poverty. The change in attitude towards rights of villagers in the national park reflects the growing strength of the perspective and significance of human values and rights, rather than paying attention to the impact of villagers in national park implementation (Adams & Hutton, 2007). Many countries, such as Australia and Canada, recognize the rights of villagers in national parks and incorporate their rights in national park policy. In Thailand, the rights and needs of local villagers for local resource conservation are now included in the Thai constitution and national park policy. These rights and needs of indigenous people are advocated by non-park agencies and NGOs at the national political and local practical levels. With regard to sharing

conservation benefits, national park agencies do not adequately distribute conservation benefits from national park management to local villagers. In fact, villagers have actually had to illegally obtain the park resources for their food or other basic needs. These illegal benefits come from hunting and gathering wild products. Non-park agencies, under the new conservation concept, attempt to support conservation benefits for local villagers. Through activities of NGOs and non-park agencies operating in the buffer zone and communities in national parks, however, these activities are still not fully supported by national park officials.

7.3 Recommendations

In order to facilitate further and better implementation of local conservation in the Thai national parks, the thesis findings recommend the following.

7.3.1 Renewal of the national park policy

Based on the influential mainstream of the new conservation concept, the orthodox park model cannot dependably stand alone in the current Thai NRM/C. There are incompatibilities, competitions and conflicts between national park officials and non park agencies and villagers that emerged in the NRM/C policy process and the park management. To reduce the tensions and contradictions and uphold harmonious work on resource conservations, the direction of the national park policy should be orientated in order to more broadly accept and adopt the new conservation concept for national park management. In practice, the relevant non park agencies at international, national and local levels who play influential roles in the NRM/C policies and local conservation practices should collaborate in making national park policies and strategies. The direction of national park policies and strategies under the collaborative decision making should facilitate the integration of various conservation approaches in the park management.

In addition, the policy of national park should support the needs, benefits and rights of villagers in the park resources and open their opportunity to join the management of the

park resources. As thesis findings, national parks are not only managed by national park officials but also are they inevitably subject to activities of villagers who live in national parks and their buffer zones. These needs, benefits and rights are overlooked by national park officials but they are upheld by new conservation agencies.

Further renewal of the national park policy should consider the issues of land rights and ownership of villagers in national parks. The problem of this issue obviously emerges in the study result. Solutions of the land rights problems should be taken attention in strategies of the national park policy and management.

7.3.2 Sharing of conservation knowledge for local resource conservation

Indigenous biological knowledge and scientific expert knowledge are still used in the national park for supporting the purpose of each group. These kinds of knowledge are different in their sources, storage and transfer of expert and indigenous biological knowledge. These differences lead to incompatibility of values and benefits, and risks to, conservation.

The knowledge of villagers is often overlooked by experts at the central and local levels, while the expert knowledge is not well understood by villagers. Environmental education is necessary to bring the knowledge from different cultures into the understanding of each side. The key elements of the environmental education is how national park officials and other conservation experts understand natural resource conservation in the contexts of Karang knowledge and how the Karang can understand the conservation matters that are identified by those scientific experts and park managers.

In addition, the schools should play a role to support the sharing knowledge. The schools can work with students to integrate, build and link between knowledge of their parents and scientific knowledge. For example, the students can integrate the knowledge of wild animals that they gain from text books and from teachers at school with the narratives on wildlife from their parents' experiences. The narrative on wildlife from two different

sources can evoke the awareness of the students to understand the protection of wildlife in the national park, and provide a basis to explore the connection and differences between the two forms of environmental knowledge.

7.3.3 Recommendation for joint management in local park practice

As the thesis findings, the Kaeng Krachan National Park is not a pristine area that only managed under the orthodox conservation ideology. Rather it is a space for two different conservation concepts of different outside conservation agencies that play an opposite role to support villagers in practicing the park resources, and is a space for the indigenous villagers. Therefore, the national park contains multiple cultural activities of different social groups who wish to use and protect those natural resources. These activities of different social groups should be shaped in a participatory model of the park management that provides the underpinning for sharing different cultural approaches regarding resource values and benefits.

Participatory approaches of the park management are necessary in order to harmoniously manage the park resources based on the two different concepts that provide incompatible way of the needs, benefits and rights of villagers in using and conserving natural resources. However, as mentioned in chapter 2, certain forms of participation approaches are not ineffectively support the needs, benefits and rights of villagers. They are unconcern and unacceptable for sharing understanding about variously useful knowledge, perspectives, principles and benefits (Klein, 2003; Hickey, 2002; Johnson & Forsyth, 2002; Mauro & Hardison, 2000), and as a mechanism to maintain the power of official authorities (Barnaud, et al., 2008). For example, community-based nature resource management is criticized as uncertain approach associated with high level decisions of governmental experts to control community actions (Masozeraa, et al. (2006). Therefore, a suitable form of participation approaches for local park practice under the options of two different concepts, villagers should be considered.

As mentioned in chapter 2, a rights based approach is a better participatory approach for villagers gaining benefits from natural resource conservation. It facilitates villagers sharing their ideas and practices in the management of natural resources (Hickey, 2002; Johnson & Forstyth, 2002). One of rights based approaches is a joint management model. The joint management model is considered as a suitably applied approach of participatory conservation in where people are not the land ownership.

A joint management model is offered as an alternative participatory that provides more respects of human values in resource conservation management (Colins, 2001; Adams, 2008; Smyth, 2001). This model facilitates villagers to share their benefits, ideas and power in the implementation of conservation (Smyth, 2001). It can be applied to solve problems of two different conservation concepts that operate in national parks or their buffer zones where villagers and their livelihoods cannot be excluded. The joint management model has various forms, and been long introduced in Australia national parks where Aboriginal people live (Collins, 2001; Smyth, 2001; Adams, 2008). It is formed to facilitate cooperation over the rights and interests of different social groups relating to natural resources in national parks, and in at least some cases, transfer the ownership of land to Aboriginal people (Smyth 2001). Table 7-1 shows some of main features of joint management models applied in Australia.

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Table 7-1 Main features of four Australia joint management models, source: Smyth (2001 p83)

Experiences and lessons from many countries can provide ideas and alternatives to improve resource management (Suchet, 2001). Elements of the Australia joint management models could be applied in Thai national parks and their buffer zones. The following paragraphs offer a possible application of a joint management model for reforestation in the PLON.

The example of application of the joint management model is in a form of reforestation in the PLON. As outlined in chapter 6, some pieces of the PLON area between and surrounding each Karang family land are protected and improved for the integrity of park resources. The Kaeng Krachan National Park officials have a reforestation project near the Karang living land, as mentioned in chapter 6. However, the reforestation project is not accepted by the Karang, they still use the project area as a track way and for gathering wild vegetables, mushrooms and firewood. So this official forestation area thus becomes a space of multiple cultural practices with different purposes; it is a place of valuable hardwood trees that support national park values and it is a corridor zone of the Karang for their food sources and other activities. Problems occur in the reforestation area, based on different practices of national park officials and the Karang; each group's authority being unacceptable to the other. In order to solve this problem, a joint management of reforestation should be introduced as a relatively small scale way to generate cooperative management processes involving the Karang and national park managers. In the process, the reforestation project should be reviewed.

A key element of the joint management is to create a space in which local, national and global values relating to park resources can be expressed. The management perspective concerning park resources in the reforestation area involves rethinking of how the values relating to the park area can provide both benefits to the Karang and support national conservation purposes. Another key element is to recognize that the joint management of reforestation in the PLON does not transfer ownership of park land back to the Karang, unlike the joint management model in Australia (Collins, 2001; Smyth, 2001). This is because the land in the PLON, under the National Park Act, cannot be converted to private ownership.

Arrangement of a joint management model should consider the establishment of a co-management group between the Karang and national park officials. The co-group should set up an agreement, select a project area, and determine ways of implementing the joint management. The agreement should recognize the Karang rights according to the Thai Constitution, the new conservation policy of Thai government, their significant knowledge, and also consider the benefits to the Karang and the nation. In addition, the area of joint management of reforestation should be selected and designated from remaining pieces of PLON area adjacent to the Karang living land. In the process the aims and character of the reforestation should be reconsidered from the ground up and its potential to meet a diversity of management goals examined.

In the implementation, the co- group should select and plant the kinds of edible wild plants and vegetables that the Karang use for their basic needs, such as food, herbal medicines, house building and the traditional practices, and which kinds of valuable hardwood trees would supplementing national park's value. These wild plants would also be cultivated in the reforestation area. In addition, the co-group should consider how and who should will look after these plants and gather their produce.

Many benefits can arise from joint management model of a designated reforestation project in the PLON. It can address the intentions and contradictions regarding land rights and empowerment of local national resource management for in the area. It can be a space for sharing knowledge and developing practice. This sharing of knowledge occurs when national park officials learn from the Karang and how to cultivate and look after wild plants from forestry experts. The Karang can learn how to look after and gather plant products from national park officials. This situation will aim to facilitate positive relationships between national park officials and the Karang. Its results may shift the political ecology of conservation from a single purpose to multiple purposes. Further, it should work towards the change of the Karang, instead of obtaining wild plants in the core area of the national park to cultivating wild plants near their houses. This may reduce their use of the core area of the national park, and lead to greater conservation effectiveness there.

7.3.4 Suggestions for further research

The Karang village in the study area is a representative of many local communities in and surrounding national parks that are being affected by national park management. This indigenous group has a unique culture and their way of life is different from other communities. Further research should consider other cultures and communities. The more information than can be obtained about the consequence of orthodox national park implementation on villagers, the more effectively joint management models of local conservation within each community can be developed, leading to further improvement of the Thai national park policy and implementation and to the development of joint management models that are suitable for Thailand.

It is also recommended that an informal conversation interview method is useful for collecting data from indigenous villagers in and surrounding national parks, particularly when the researchers undertake fieldwork in an area of the conflict or tension between national park officials and indigenous villagers. The villagers have been afraid to freely answer any questions linked to wild animal hunting and deforestation and other issues related to illegal activities. Under these conditions, the informal conversation interview method is more likely to facilitate gaining data on what exactly the indigenous villagers think, know and practice. Such insights are currently missing from the management of Thai national parks with adverse consequences for both people and conservation.

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Appendix 1

Summary of the Survey of Study Areas

1. Baan Vang-pla

It is a village located on the bank of Pran River. Information from an interview with a village chief reveals that it has been established over thirty years. At the time of the field trip, it comprises twenty-eight households. Unfortunately, people have no activity, such as agriculture and fishery because it is the drought season. Almost all adult villagers go to work in a nearby town. In addition, this village has not conservation activity that is operated by outside agencies.

2. Baan Long-soop

It is a village located on the bank of Pran River. Information from a village chief during the field trip reveals that it has been set up for just five years. It was separated from another village because many labourers from outside came to live in this village after industries were operated nearby the village. There are about two hundred households. Almost all villagers work in factories, a few are agricultural. This village has not official conservation activity.

3. Baan Fung-tar

It is a village located on the bank of Pran River. Information from a village chief at the field trip time reveals that it has been there more than 150 years. People in this village come from different places. Each group has its own way of life. There are 199 households. The village has conservation activities of wild animal and fish.

4. Baan Par-lar-ouu

It is a village located on the bank of Pran River, in an upstream section of Pran River. It has been inhabited by an indigenous group namely the Karang. Information from interviews with a village chief at the fieldwork time reveals that it has been established more than 150 years. There are about eighty households. Villagers are still maintaining their cultures, such as houses and dress styles. There are conservation projects and activities from outside agencies in this village.

5. Baan Poug-loug

It is a village located on the bank of Pet River and in a national park. Information from an interview with a village chief reveals that it has been established for more than 200 years. There are sixty households. Some indigenous practices or knowledge use can not be conducted in this villager, such as shifting cultivation or wild animal hunting because they are under the control of national park officials. There are conservation activities under the direction of national park official. This area is unsafe and uncomfortable for gathering data because there is high degree of conflict between the villagers and national park officials.

6. Baan Plu-ra-gum

It is a village located on the bank of Pa Chee River, near the border between Thailand and Burma. Information from a village chief at the field trip time reveals that it has been established more than twenty years. There are about thirty households. There is no electric-line power. Cars can access only in the dry season. This village has conservation activities conducted by local experts. There is unsafe and uncomfortable for gathering data because there are conflicts between villagers and forestry officials.

7. Baan Naam-nuk

It is a village located on the bank of Pa Chee River, near the border between Thailand and Myanmar. Information from a village chief at the field trip time reveals that it has been established for more one hundred years. The village comprises of one hundred households the mix between the Karen and Burmese. There has not expert conservation activity conducted in this village.

8. Baan Taar-mar-karm

It is a village located on the bank of Pa Chee River. Information from a village chief reveals that it has been there for more than ninety years. There are about one hundred households. Because of its location near Soun Pong town, villagers adjust their life styles like many other rural villagers, so modern houses, asphalt roads, electricity line, and tape-water supply are established there. There has no conservation activity involving outsiders.

9. Baan Kluay

It is a village located on the bank of Pa Chee River. Information from interviews with a village chief during the field trip reveals that it has been there for more than 100 years. There are sixty households. Most houses are located alongside the road rather than the river side. Villagers use water from the river for their agriculture such as corn and pastures. There has no conservation activity involving outsiders.

10. Baan Toung-kra-tinn

It is a village located on the bank of Pa Chee River. Information from an interview with a village chief reveals that it has been there for more than thirty years by immigration of people from outside. There are about seventy households. Most people are gardeners. They

have modern farms, such as using sprinklers for their vegetables and pastures. Some have livestock farms on the river bank. An agricultural dam is constructed for water storage and pumping. There is no conservation activity involving outsiders.

Appendix 2

Procedure for Data Transcription

Step 1

Translate from Thai language to English, from Thai words to English words or from Thai phrases to English phrases, for example, word ‘kiin’ translate to word ‘eat’, phrase ‘tom rai’ to word ‘farming’. The translation is not from long sentence to long sentence because the grammar is different and some dialects do not recognized subjects or objects. In this step, many issues have to be considered as below:

1. have to replay tape to listen again and again until a clear meaning is obtained before translation into English language because, for example in the case of the Karang, it is difficult to fully comprehend, particularly when the Karang accent in the Thai language. Some words of their dialect are spoken with the same accent but have different meaning to what they mention, such as ‘ku’. Thai people use ‘ku’ to mean a teacher or teachers, but the Karang said ‘ku’ to mean ‘you’ or ‘teacher’ or ‘researcher’ or ‘border office’. So the actual meaning of ‘ku’ when used by the Karang, is established by other component words, such as an adjective or a pronoun in each sentence or a dialogue.
2. put a given name or nickname of interviewed person in front of line (see Example 1)
3. put a running number of recording tape in the front of line (see Example 1)

Example 1 shows the first step in the translation with the given name and the running number prefaced on the line

Line

069]A: as rim naam this rim naam when they do farm they clear land until water or not

070]G: not to krub

A: orr

071]G: need to leave on a few far two three va

A: for two three va

072]G: if it not free water water kor dry out

A: orr if clear land until to water water dry out

G: krub

A: do you keep for two or three va without do anything

073]G: krub did not do keeping for roun naam
 A: for roun naam so every house do same this
 075]G: same all
 A: what about in your parent time
 077] G: kor↑pounnut↑

Step 2

Replay and listen again and put the following transcript techniques and symbols, as below:

1. Arrow up on both sides of an utterance denotes words inside with higher voice.
2. Arrow down on both sides of an utterance denotes words inside are in a relatively lower voice, or speaker talk with a quieter sound than surrounding speech.
3. Equal sign means latching or a gap between each speaker with too short, when one turn at talk ends and next speaker begins almost immediately. This is no gap but no overlap.
4. Extended colons stand for lengthened sound or denotes when one speaker talk. S/he stretches words or sounds. More colons more long sound, when two speakers talk, one inevitably stops (drop out).
5. Two sets of wing brackets in same column but different line signal overlap, or two speakers' utterance occur simultaneously.
6. Dot or numerical between round brackets denotes a pause of time in seconds and tenths of a second; text in square brackets behind italic words denotes the meaning of word(s) in italics.
7. Text in double square brackets denotes vocalisations are not easy to spell out.
8. xxx in text in double square brackets denotes omitted or unclear utterances to transfer and untranscribable segments.
9. . . . thrice-dot in a line without other symbol denotes not relevant to the study issue.

Transcription Convention		
Transcription element	Meaning	example
↑up↑	arrow up on both sides of an utterance denotes words inside is higher voice or marked rise in intonation	↑okay↑
↓down↓	arrow down on both sides of an utterance denotes words inside is relatively lower voice, or speaker talk with quieter sound than surrounding speed	↓okay↓
=equals symbol =latching	equal sign means latching or a gap between each speakers with too short, when one turn at talk ends and next speaker begins almost immediately, this is no gap but no overlap	G: what is it call= A: call G: = <i>ma ma</i>
:prolongation of sound :::colons	extended colons stand for lengthened sound or denote when one speaker talk, s/he stretch words or sound. More colons long sound or when two speakers talk, one inevitably stop (drop out)	Excel::lent
{overlapping of talk} {go to Bangkok by}	two sets of wing brackets in same column but different line signal overlap or two speakers' utterance occur simultaneously or mark onset (beginning) and completion (end) of overlap	{ to go} {y::es::}
(.)	dote or numerical between round brackets denote pause of time in second and tenth of second or time of pause in second and tenth of second (1:10)	(1.5)=1.30 second (.5) = 0.30 second (.1)=0.06 second (.) = hear able but cannot measure or too short or less than 0.06 second
<i>kiin</i> [eatting]	text in square brackets behind italic words denote the meaning of italic word in previous word	'eatting' is meant to 'kiin'
[[]]	text in double square brackets denote vocalizations are not easy to spell out	[[orr]]
[[xxx]]	xxx in text in double square brackets denot omitted or unclear utterances to transfer and untranscribable segments.	[[xxx]]
....	thrice-dote in a line without other symbol denotes not relevant to the studying issue	...

Table show the symbols of the transcription convention. The transcriptions were modified from the Jefferson transcription notation (1984)

Example 2 shows symbols of the transcription convention and the running number of recording tape in the lines.

Line

069] A: as (.) a streamside (.) this streamside (.) when they do farm (.) they clear land (.) in the streamside or not

070] Garboo: not to {krub}=

A: {orr::}

071] Garboo: =need to leave out (.5) a few far (.) two (.) three *va* [a Thai unit of length; 1 *va* =2 meters]

A: for two (.) three *va*

072] Garboo: if it not free (.) water (.) water [[kor]] dry out

A: [[orr]] means that (.) if clear land until (.) to water (.) water dry out=

Garboo: *krub* [acknowledge]

A: = so you keep for two or three *va* without do anything

073] Garboo: *krub* [acknowledge] did not do (.) keeping it for *roum naam* [water shade]

074] A: for *roum naam* so every house do same this

075] Garboo: same all

A: what about in your parent time (.) they did like this

077] Garboo: [[↑kor↑]] *poun↑nut↑* [did like that]

Step 3

Transcribe the English back to Thai language again. This is done after all the recoded tapes from ten indigenous interviewees are transcribed from step 1 -2, because I want to confirm all contexts and the reliability of transcription procedure. The words and phrases in Thai language were placed under the line of English in order to easily investigate the corrections.

Example 3 shows the again transcription of the words and phrase in Thai language put under the line of English.

Line

069] A: as (.) *rim naam* [a streamside] (.) this *rim naam* (.) when they do farm (.) they clear land (.) until the stream or not

อย่าง (.) ที่ริมน้ำ (.) ที่ริมน้ำนี้ (.) เมื่อเขาทำไร่ (.) เขาถาง พื้นที่ จนถึงริมน้ำ หรือไม่

070] Garboo: not to {krub}

ไม่ถึงครับ

A: {orr::}

เออ

071] Garboo: need to leave on (.5) a few far (.) two (.) three *va* [a Thai unit of length; 1 *va* =2 meters]

จำเป็นต้องเก็บมัน (พื้นที่) ไว้ (.5) กว้าง (.) สักสองสามวา

A: for two (.) three *va*

สักสองสามวา

072] Garboo: if it not free (.) water (.) water [[kor]] dry out

ถ้าไม่ปล่อยมันไว้ (.) น้ำ (.) น้ำเหือดแห้ง

A: [[orr]] means that (.) if clear land until (.) to water (.) water dry out

อ้อ หมายความว่า (.) ถ้าถางพื้นที่ จนถึง (.) ถึงริมน้ำ (.) น้ำแห้งหมด

Garboo: *krub* [acknowledge]

ครับ

A: so do you keep for two or three *va* without do anything

ดังนั้น คุณก็ รักษา พื้นที่ริมน้ำไว้ สองหรือสามวา โดยไม่ได้ทำอะไร กับมัน

073] Garboo: *krub* [acknowledge] did not do (.) keeping it for *roum naam* [water shade]

ครับ ไม่ทำอะไร (.) รักษา มันไว้ เป็น รมน้ำ

074] A: for *roum naam* (.) so every house do same this

เพื่อรมน้ำ (.) บ้านอื่นๆ ทำอย่างนี้กันหรือเปล่า

075] Garboo: same all *krub*

เหมือนกันทั้งหมดละครับ

A: what about in your parent time (.) they did like this

สมัยพ่อแม่ เขาก่อน อย่างนี้หรือเปล่า

077] Garboo: [[↑kor↑]] *poun↑nee↑* [did like this]

ก็อย่างพรรนี้

Step 4

Listening to the recoded tapes again to compare the meaning from tape and Thai language in step 3. If some words are incorrect, improve it.

Example 4 shows the final transcription

Line

069] A: as (.) a streamside (.) this streamside (.) when they do farm (.) they clear land (.) in the streamside or not

070] Garboo: not to {*krub*}=

A: {*orr*::}

071] Garboo: =need to leave out (.5) a few far (.) two (.) three *va* [a Thai unit of length; 1 *va* =2 meters]

A: for two (.) three *va*

072] Garboo: if it not free (.) water (.) water [[kor]] dry out

A: [[orr]] means that (.) if clear land until (.) to water (.) water dry out=

Garboo: *krub* [acknowledge]

A: = so you keep for two or three *va* without do anything

073] Garboo: *krub* [acknowledge] did not do (.) keeping it for *roum naam* [water shade]

074] A: for *roum naam*

Garboo: *krub* [acknowledge]

A: so every house do same this

075]Garboo: all do same

A: what about in your parent time (.) they did like this

077]Garboo: [[↑kor↑]] they do *poun*↑*nee*↑ [did like this]

Appendix 3

Procedure for Data Analysis

Step 1

From the spoken transcript texts of each interviewee, dialogues that relate to the uses and conservation of various natural resources are searched and excerpted. The excerpts are focused on relevant issues of local natural resource management. Such relevant issues are analysed in the dialogue and the explanation of interviewees directly and indirectly on natural resource matters, how their ideas, perspective, concepts of each interviewee are relevant to natural resources in their activities.

Step 2

Choose key words and phrases in the dialogue-indigenous words, academic words, common words, idiom, argument, narrative-relevant to the uses and conservation of various natural resources.

Example 5 shows the searching of the key words in a dialogue

Line

069] A: as (.) streamside (.) this streamside (.) when they do farm (.) they clear land (.) until water or not

070] Garboo: not to {krub}

A: {orr::}

071] Garboo: need to leave on (.5) a few far (.) two (.) three *va* (Com. W= a Thai unit of length; 1 *va* =2 meters)

A: for two (.) three *va*

072] Garboo: if it not free (.) water (.) water [[kor]] dry out

A: [[orr]] if means that (.) clear land until (.) to water (.) water dry out

Garboo: *krub* [acknowledge]

A: do you keep for two or three *va* without do anything

073] Garboo: *krub* [acknowledge] did not do (.) keeping for *roum naam* (In. w = water shade)

074] A: for *roum naam*

Garboo: *krub* [acknowledge]

A: every house do same this

075]Garboo: all same

A: what about in your parent time (.) they did like this

077]Garboo: [[↑kor↑]] they did *poun↑nee↑* [like this]

A: [[orr]]

Step 3

Use Gee's seven tasks to analyse words, phrases, idiom, narrative, argument and any other relevant language form used in the dialogues. Analyse how each form of language was used to establish identity, significance, activities, relationships, politics, and connections and sign systems. These seven building tasks involved asking question about how language at time and place during interview are used to build up perspectives, opinions, understandings, knowledge, and meanings related to natural resource where her/his living. Seven building tasks include as below:

1. Significance

How an interviewee uses language to make (give its meaning or value) on any natural resource water, land, plant, and animal or make thing relevant to these natural resource to be significant, insignificant, important, unimportant, or little important in some ways. For example:

= how does an interviewee makes the fact that him/her or other at the actions (use or keep) on any natural resource significant.

= how interviewee uses his words clear contrast between the case of water pollution and his activities.

= how an interviewee uses his/her word to make contrast between his and other in natural resource utility.

= how an interviewee stresses by say 'so sad' instead of just normal voice to portray himself as conservationist on any resource conservations.

= how an interviewee uses 'any words' to make certain natural resource is over than other resources.

= how an interviewee uses his words to treat natural phenomena as a significant (or little) happening.

= how an interviewee concludes with 'word' to make natural resource (or his relevance with natural resource) significant or not.

= how any natural resource is treated by an interviewee as a significant or meaningful fact or contrast.

2. Activity

How an interviewee uses language to get recognised as engaging in a certain sort of activity on any natural resources, such as water, land, animals and plants. And what activity or activities on any natural resources that piece of language is being used to enact (i.e., get others to recognise as going on. For example:

= what is an interviewee uses language to make clear what it is he/she takes himself to be doing on any natural resource.

= what an interviewee is attempting to enact his/her social activities on any natural resource.

= how an interviewee is trying to contrast his/her responsibility or his/her behaviour to any natural resource or a damageable person on any natural resource.

= how an interviewee set him/herself as a practitioner, such as 'I do', 'we do', 'I am able to' on any natural resource.

3. Identity

How an interviewee uses language to get recognised as take on the certain identity or role that is to build an identity here and now. And what pieces of language being used by an interviewee to enact (i.e., get others to recognise as operative) an interviewee's identity or identities on use, belief, practice on any natural resource such as water, land, animals and plants. For example:

= what identity is an interviewee trying to enact on animals, plants, land, or water.

= how an interviewee enacts his/her language to identity as a responsible do-er

= how an interview is speaking and acting as a conservation leader and how he/she wants to enact his identity as the right time and place

= how an interviewee uses language to enact his identity as a responsible do-er on any natural resource, such as responsible to solve the solvability of environmental problem by cooperating with other agency.

4. Relationship

How each interviewee uses language to enact the sort of relationship and what is relationship of an interviewee with other persons trying to enact on animals, plants, water, land and waste. For example:

- = how an interviewee is enacting a distant relationship to polluter or hunter
- = how an interviewee is enacting not particularly deferential to hunter.
- = how an interview is depicting him/herself as a responsible person that have to do.

5. Politic

How an interviewee uses language to convey his/her perspective on the nature of the distribution of social goods, perspective on social issue in good or bad, culpable and what perspective on social goods is this piece of language communicating (i.e., what is being communicated as to what is taken to be normal, right, good, correct, proper, appropriate valuable the way things ought to be high status or low status like him/her or not like him/her. For example:

- = what sorts of implications for the distribution of social goods does an interviewee's language have?
- = how an interviewee is making clear that he/she feels that s/he owns natural resource.
- = how an interviewee is making the rights on natural resource.
- = what is a social goods at stake in dialogue.

6. Connection

How an interviewee uses language to show that some things are connected or relevant or not to other things. How does this piece (connect words) of language connect or disconnect things: how does it make one thing relevant or irrelevant to another. For example:

- = how an interviewee connects or makes things, such as plants, animals, water, soil, or waste relevant to other things

=how an interviewee is connecting any natural resource, such as water or pollution to his belief

= how an interviewee is connecting the change of water quality to time period.

= how an interviewee is connecting fish quantity relevant to time period

= how an interviewee is connecting his activity as irrelevant in the case of water pollution.

7. Sign systems and knowledge

How each interviewee uses language to make any different system, form of knowledge and belief relevant or not in given situation on any natural resource and waste. How does this piece of language privilege or disprivilege specific sign systems (e.g. Spanish vs. English, technical language vs. everyday language, words vs. images, word vs. equations) or different ways of knowing and believing or claim to knowledge and belief. For example:

= how is an interviewee *privileging or* disprivileging specific sign systems (language, styles of language, or non-verbal sign system) or specific way to claim, know and believe on garbage

Example 6 shows the analysis individual meaning

In lines 069-077; 6, the interview is conducted on the stream bank at Garboo residential land. When asking about the clear up area in the stream bank. Garboo say his practice as relevant to natural resource. He said that he keeps the stream bank about 4-6 meters for protecting water dry out, he keeps a tree in the bank to stop sunlight touch to water surface in the stream, and he told that this practice has done in his group from his forefather.

When asking him about clearing land to the water's edge, he builds 'need to' in 071, as if he wants to show the important practice for abundant streamside area or his perspective on natural conservational aspect. He also gives more data by 'va', to make his knowledge as privileged to explain the length of the free land. In my understanding, 'va' means the length of human hand from the end of left hand to the end of right hand. The 'va' is the Thai unit for length measure and the Karang still use their hands to measure the length of anything because it is easy measure without any material tool.

When asking as confirm his practice to keep the stream bank for two or three va without do anything , He points in 073 'roum naam' as if he gives local meaning about the reason to free land in the stream's bank. Note; 'roum' means umbrella and 'naam' means water in

stream. The phrase ‘roum naam’ is local word I inferred to make trees in the stream’s bank as similar as umbrella in order to prevent sunlight touching water surface in the stream and consequentially, stop water from drying out. This is the Karang belief.

1. This is an evidence of what indigenous individual to do practice. His politic of keeping tree for ‘roum naam’ can constitute an important way in conservative action under acceptability of karang group because as he told that not only him, but also other Karang left off area in the stream side. And this practice has been continuously from his parents.

2. In the perspective of conservation, the traditional practice can provide not only the water storage, but also vegetable food. This is because the practice can support wild vegetable such as *Phak goose* growing in the riverside under big tree.

Line

069]A: as (.) they called the streamside (.) this ↑streamside↑ (.) when they do farm (.) they clear land (.) until to water or not

070] Garboo: not to {krub}

A: {orr::}

071]Garboo: **need to** leave on (.5) a few far (.) two (.) three *va* (Com. W= a Thai unit of length; 1 *va* =2 meters)

A: for two (.) three *va*

072] Garboo: if it not free (.) water (.) water [[kor]] dry out

A: [[orr]] if clear land until (.) to water (.) water dry out

Garboo; *krub* [acknowledge]

A: do you keep for two or three *va* without do anything

073] Garboo: *krub* [acknowledge] did not do (.) keeping for *roum naam* (In. w = water shade)

074] A: for *roum naam*

Garboo; *krub* [acknowledge]

A: every house do same this

075]Garboo: same all

A: what about in your parent time (.) they did like this

077]Garboo: [[↑kor↑]] *poun↑nut↑* [like that]

A: [[orr]]

Step 4

Grouping the natural resource into relevant themes, each dialogue from the analyses using Gee’s seven building tasks is categorized into themes of land, water, plants, and animals.

The natural resource themes could made obvious to interpret different knowledge and perspectives, opinions and understandings of different interviewees.