

The background of the image is a dense, green forest covering a hillside. In the lower foreground, there is a field of tall, green corn plants. The sky is overcast. A branch with green leaves is visible in the upper right corner.

Conflicts in Conservation: Territorial and Value Based Implications for Cat Tien National Park, Vietnam

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MA Development and Emergency Practice
2010

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This dissertation is submitted in partial fulfilment of the MA degree in Development and Emergency Practice at Oxford Brookes University

Abstract

The target agreed within the United Nations Millennium Development Goals in 2002 was “To achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on earth”. According to the 2010 Global Biodiversity Outlook report, this has not been met. The reason suggested were that there was not a holistic enough approach to the implementation of strategies integrating the underlying causes, direct pressures, state of biodiversity and benefits of ecosystem services.

Cat Tien National Park is a designated special-use forest for the purposes of biodiversity conservation. Conservation efforts in the area have been on going, and yet the number of threatened species and the rate of extinction continues to rise, and the pressures on its boundaries continue to decrease the forested area. Tropical forests like Cat Tien National Park harbour the vast majority of land-based biodiversity. This front line forms the framework for this study. It explores this zone where the human world and that of the majority of other land-based species clashes. It questions the values we place on the benefits provided for humankind by natural environment, as well as the values we place on other species.

The purpose of this dissertation is to explore the conflicts occurring in the context of biodiversity conservation at Cat Tien National Park in Vietnam to better understand the reasons behind the disjointed nature of conservation strategies in the focus area. Numerous different actors all work towards different goals in the area; some in support of conservation and others contradicting these efforts. Within the groups that are actively working towards conservational goals I would propose that there are also conflicting strategies and ideologies that may be counteractive and disjointed, rendering work towards that common goal ineffective.

This research was conducted over the course of three months in the summer of 2010 and split between desk-based study in the UK and fieldwork in and around Cat Tien National Park in Vietnam. A series of structured and semi-structured interviews were conducted with key informants in the region, and the results analysed through the ideas of ‘Territory’ and ‘Value’

The territorial construct was one in which the activities of actors could be mapped by the spaces in which they live, work and think. These are both physical spaces and temporal spaces, where activities different people overlap and often conflict. The solutions to the conflicts I suggested, could be wider than the direct ‘territories’, for which the idea of a ‘problemshed’ became a useful tool I which to understand them.

The value construct identified that the values different people or organisations had were linked to the relationship people have with the resources available to them now, that they had available to them in the past, and what they expect will be available to them in the future. The second section explored these ideas further through the relationship resources have to each other, and the differing values that are held by people in relation to them.

‘Conservation’ was not so much a singular goal as the product of innumerable activities by the many regional actors, each with their own goals and values that are making either a positive or negative contribution towards the conservation of biodiversity. These goals are shaped either by short-term needs of the surrounding populations, or the ideologies underpinning policies and projects, and the values created through market demand.

The results of this dissertation put ideas and strategies for conservation in Cat Tien into a framework to help prioritise goals and understand the impacts of activities. Understanding the reasons for conflict is essential to recognising the potentials for the success of projects, programmes and policies, and can help inform the decisions made.

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Acronyms

CITES	Convention on International Trading in Endangered Species of Wild Flora and Fauna
CTNP	Cat Tien National Park
EIA	Environmental Impact Assessment
GDP	Gross Domestic Product
HCMC	Ho Chi Minh City
ICEM	International Centre for Environmental Management
IRIN	Humanitarian News and Analysis
IUCN	International Union for Conservation of Nature
MARD	Ministry of Agriculture and Rural Development
MoNRE	Ministry of Natural Resources and Environment
NTFPs	Non Timber Forest Products
PES	Payment for Ecosystem Services
UNEP	United Nations Environment Programme
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
USD	United States Dollar
VCNR	Vinh Cuu Nature Reserve
VND	Viet Nam Dong
WHO	World Health Organisation
WWF	World Wildlife Fund for Nature

Vietnamese Translations

<i>Chau Ma, Tay and X'Tieng:</i>	Names of Ethnic Minorities in the Cat Tien Area
<i>Doi Moi:</i>	‘Regeneration’ Political transition Period from 1986
<i>Kiem Lam:</i>	Forestry Protection Rangers
<i>Kinh:</i>	Ethnically Vietnamese

Preface

This dissertation stems from my previous involvement in building an eco-lodge in one of the most biodiverse regions in South East Asia. During the yearlong process, I was responsible for designing an environmentally sustainable “ecolodge” to attract a mid-range tourist market. Through this, I became aware of the extent of planning and understanding of social dynamics needed – way beyond the building process – for the project to have a truly positive impact on the park and local community. As a discussion on the perceptions of territory and value linked to the conservation of biodiversity, I recognise that everyone involved will have their own will have their own, and they will continue to change. This sketch illustrates my own view of Cat Tien at the beginning of this piece of research.

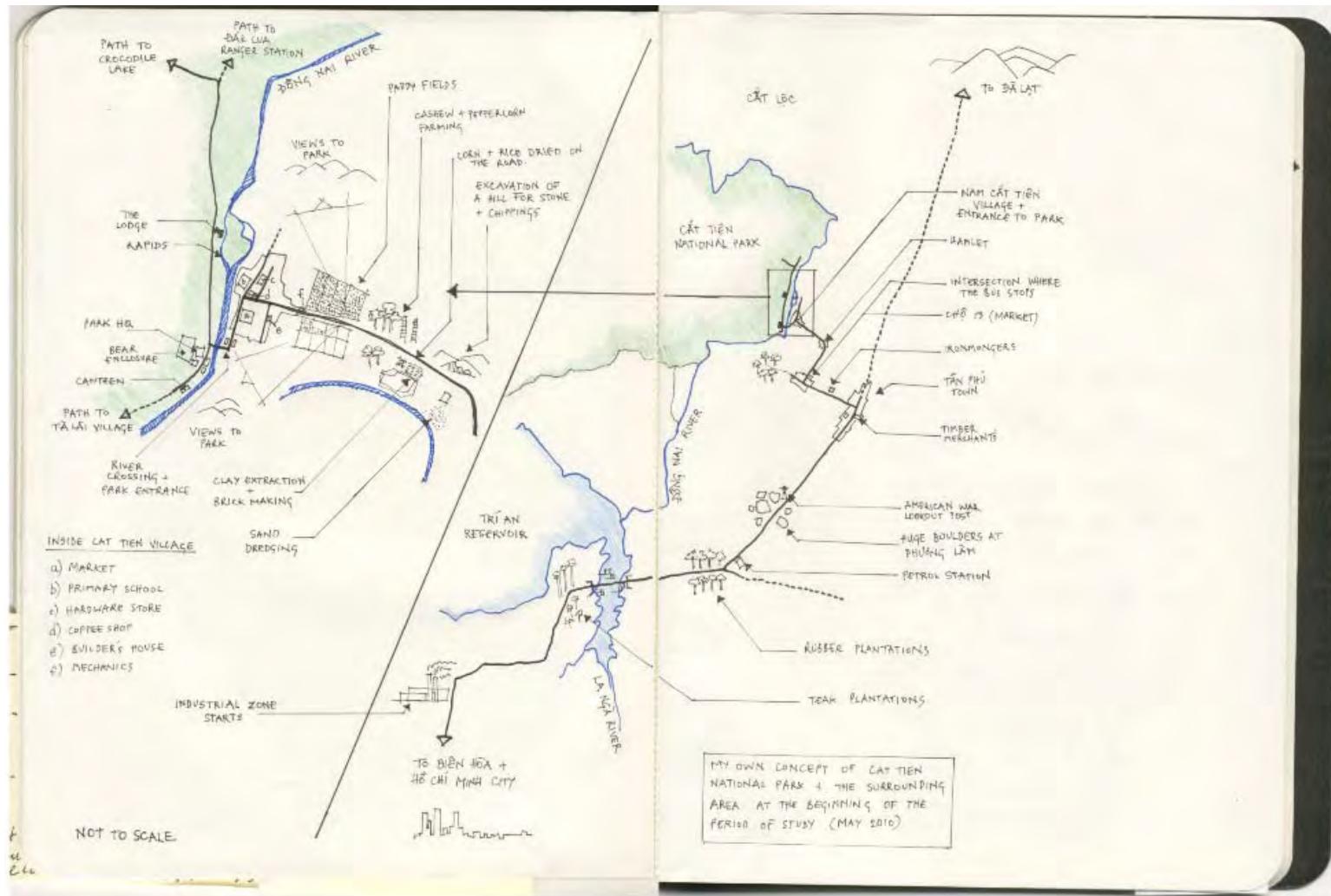


Fig 1: My own point of view

Acknowledgements

I would like to thank everyone involved in helping me in this research. To all those who agreed to participate in interviews; to Truong, Hai and Thuy for taking me to the places I wanted to go; to Nabeel my supervisor for keeping me on track; to my Family and to Euan for their unending support in every way. Any faults or inconsistencies are entirely my own.

PART I:
Background

1. Purpose

The purpose of this dissertation is to explore the conflicts occurring in the context of biodiversity conservation at Cat Tien National Park in Vietnam to better understand the reasons behind the disjointed nature of conservation strategies in the focus area. Numerous different actors all work towards different goals in the area; some in support of conservation and others contradicting these efforts. Within the groups that are actively working towards conservational goals I would propose that there are also conflicting strategies and ideologies that may be counteractive and disjointed, rendering work towards that common goal ineffective.

2010 has been named the United Nations (UN) year of Biodiversity and as such the focus for achieving Goal 7: 'Ensure Environmental Sustainability' of the Millennium Development Goals (MDGs), has shifted more significantly towards emphasising the importance of biodiversity when considering development targets. The importance of biodiversity has been recognised by the UN Secretary-General:

Biodiversity underpins the functioning of the ecosystems on which we depend for food and fresh water, health and recreation, and protection from natural disasters. Its loss also affects us culturally and spiritually. This may be more difficult to quantify, but is nonetheless integral to our well being.¹

The target agreed within the MDGs in 2002 was "To achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on earth". According to the 2010 Global Biodiversity Outlook report, this has not been met.²

As illustrated (right), the report concluded that the reasons for this failure were primarily due to the absence of a holistic approach to tackling the problem, with a disproportionate focus on direct pressures such as pollution control and the changing state of biodiversity often directed towards particular species or research areas. In 2010 the report recognises the lack of meaningful measures taken in tackling the underlying causes of biodiversity loss, as well as the long-term benefits of ecosystem services.

The Vietnamese government have designated Cat Tien National Park a special-use forest for the purposes of biodiversity conservation. Conservation efforts in the area have been on going,

and yet the rate of increased threatened species and extinction continues to rise, and the pressures on its boundaries continue to decrease the forest area.

The conclusions of the UN report seem to correlate with conservation strategy at Cat Tien, with a heavy focus on tackling direct pressures, and with the recording of scientific material contributing to a fairly comprehensive picture of the state of biodiversity.

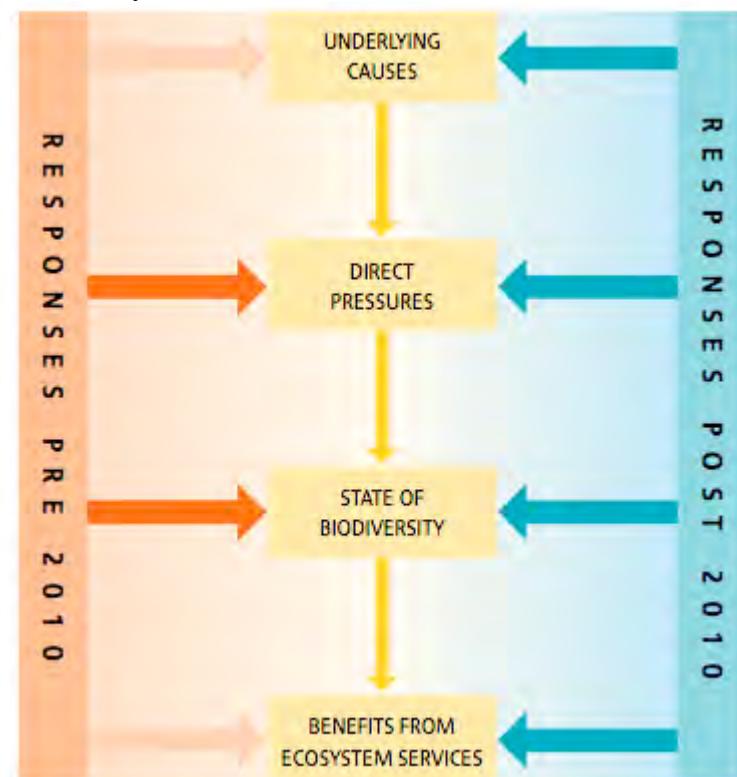


Fig 2: Responses for Conservation (Source: Secretariat of the Convention on Biodiversity)

¹ UN Secretary-General Ban Ki Moon, Secretariat of the Convention on Biological Diversity (2010) *Global Biodiversity Outlook 3*. Montreal, p5

² United Nations, *Millennium Development Goals Report 2010*, New York (2010) p.55

1.1. Direct Pressures

The National Park Authorities outline the direct pressures to include:

- Encroachment and loss of Habitat
- Hunting
- Invasive Species
- Release of Non-native Species
- Collection of Non-timber Forest Products
- Rearing of Domestic Animals Inside the Park
- River Bank Erosion
- Uncontrolled Tourism
- Forest Fires
- Uncontrolled Weapons
- Development Impacts Inside the Park

Fig 3: Adapted from Public Information Board, Cat Tien National Park HQ

Identifying the actors involved with these direct pressures will provide the groundwork for understanding where conflicts can occur. This extends to those working against these pressures as well as those who are creating these pressures as listed above.

1.2. State of Biodiversity

The state of biodiversity of the 71,920 hectare area is well documented. It includes “more than 1,600 plant species recorded, in 162 botanical families, 105 listed mammal species, more than 360 species of birds, 120 reptile and amphibian species and more than 130 species of freshwater fish. The park supports approximately 440 species of butterflies and innumerable other insects.”³ This information is a combination of research gathered from and used by reports by the WWF, IUCN, Academic Researchers and various species specific NGOs. Further to this the regional characteristics that define Cat Tien as a ‘Lowland tropical mixed evergreen forest and wetland’⁴, and it’s unique character and abundance of endemic species, defined by the region’s biogeography has also been considerably researched.

Understanding the context for which Cat Tien is important to biodiversity is integral to understanding why action needs to be taken to preserve it. It will also be useful to know why certain species are targeted in this effort in regards to their importance to biodiversity. This will help unveil the extent that specific activities impact the state of biodiversity.

³ <http://cattiennationalpark.org/> accessed 02/06/2010

⁴ www.arcbc.org.ph/wetlands/vietnam/vnm_namcattie.htm accessed 02/06/2010

1.3. Underlying Causes

Now there is recognition that the wider issues concerning the underlying causes of direct pressures to the park need to be identified and tackled, that this has the potential to impact the activities involved in conservation efforts and ways in which they are perceived by the international community, national and local government authorities and local populations. Underlying causes can be seen as both institutional and cultural and may be directly or indirectly related to environmental issues.

This study will try to identify some of these underlying causes threats to conservation to see how they affect activities at Cat Tien National Park, and put Cat Tien in the wider socio-political landscape.

1.4. Ecosystem Services

Ecosystem services are defined as “the benefits people derive from ecosystems”⁵ and can be categorised as:

Provisioning services

- Food, crops, wild foods, and spices
- Water
- Pharmaceuticals, biochemicals, and industrial products
- Energy (hydropower, biomass fuels)

Regulating services

- Carbon sequestration and climate regulation
- Waste decomposition and detoxification
- Purification of water and air
- Crop pollination
- Pest and disease control

Supporting services

- Nutrient dispersal and cycling
- Seed dispersal
- Primary production

Cultural services

- Cultural, intellectual and spiritual inspiration
- Recreational experiences (including ecotourism)
- Scientific discovery

Fig 4: Adapted from: Millennium Ecosystem Assessment (MEA). 2005. *Ecosystems and Human Well-Being: Synthesis*. Island Press, Washington. p155

⁵ http://www.iucn.org/about/union/commissions/cem/cem_work/cem_services, accessed 02/06/2010

Recognition of ecosystem services places Cat Tien into the wider regional, national and even international conservation framework, looking at the National Park as impacting and being impacted by human development activities in the region, its relationship to the Dong Nai River Basin, of which it is a part of, its role in the mitigation of floods and pollution, and its value to the cultural heritage and potential for scientific knowledge that it's biodiversity brings.

In exploring the underlying causes of conservation issues in Cat Tien, as well as the possibility of find solutions outside the borders of the national park, part of this study will look at the value of ecosystem services and the ways which they might affect conservational strategies.

1.5. Conflict in Conservation

Man's continuous tapping of natural resources is not an activity that makes no history. On the contrary it is the most important long-run element of mankind's fate... Nothing could be further from the truth than the notion that the economic process is an isolated affair – as Marxist and standard analysis represent it. The economic process is solidly anchored to a material base which is subject to definite constraints⁶

To recognise that environmental goals have economic and social implications, and that social and economic goals have environmental implications suggests that there will always be a compromise. To understand the differing viewpoints towards conservation in connection to all these processes may help to shed light on why conservation of Cat Tien National Park is so difficult.

This leads me to consider what the principle drivers of conflict are. Where do the reasons for conflict come from? Are they differences in strategy or ideology, or struggles for power and resources. Through the analysis of these factors I will try to determine what the fundamental causes of conflict in conservation may be.

I argue that conflicts in conservation cannot be completely resolvable, as I believe it is a truism, that "...not all good things are compatible, still less the ideals of mankind"⁷ However understanding the values and assumptions behind why the conflicts occur is important to ultimately better integrated conservation targets and activities.

⁶ Georgescu-Roegen, N., 'The Entropy Law and the Economic Problem', in Daly, Herman, E. [1973] *Towards a Steady-State Economy*, pp.37-49)

⁷ Berlin, I. (2002) Two concepts of liberty. In: H. Hardy (ed.) *Liberty*. Oxford: Oxford University Press, p213

2. Context

2010 Vietnam is seeing unprecedented levels of growth and prosperity. In a globalising world, many countries have experienced changes affecting their societies, cultures and economies, and have seen their landscapes transform over the course of and the last few decades. For Vietnam, much of this began with the political and economic reforms of 'Doi Moi' (lit. Renovation) in 1986. There has been a conscious push from a state- led planned economy to the embrace of a market-orientated economy, though one still under considerable state influence. This has provided a new framework for bringing about significant changes in people's opportunities to work and learn. By the end of the 20th century, more freedom was granted to manage land and decide which crops to grow, consumers gained better access to markets, and state owned producers were given more autonomy over what to produce and also who they could sell it to.⁸

All this has lead to impressive development achievements and poverty reduction. Prior to *Doi Moi* over 70% of the country was considered poor. This fell to 58% by 1993, 37% by 1998 and 29% by 2002⁹. Between 1990 to 1997, and 2004 to 2007, Vietnam became one of the fastest growing economies in the world, averaging around 8% annual gross domestic product.¹⁰

The upshot of this growth is that Vietnam of 2010 is faced with new challenges. Such rapid change has put the country's resilience to the test, forcing people to adapt to a new sort of society, where the pressures of urbanisation on resources and services have been stretched beyond any previous measure. Economic gains have come at the cost of increasing social inequality with fractures between the well connected and the remote, the technologically capable and the illiterate, and of course the financially rich and poor. However, one of the biggest challenges is the management of land and water resources, which the country's growing population¹¹ is heavily dependent upon. Pressures on the environment are currently the biggest concern for the long term security of food, water and livelihoods. With 70% of the population dependent on the

⁸ National Centre for Social Sciences and Humanities & UNDP, *National Human Development Report 2001, Doi Moi and Human Development*, The Political Publishing House, Hanoi (2001) p1

⁹ World Bank, Vietnam Country Profile,

<http://data.worldbank.org/country/vietnam>, accessed 21/08/2010

¹⁰ U.S Department of State Website, Background Note: Vietnam, <http://www.state.gov/r/pa/ei/bgn/4130.htm> accessed 21/08/2010

¹¹ The preliminary results of the 2009 National Population & Housing Census estimates a current population of 85.8 million, and with an annual growth rate of 1.2% giving a population density of 259 people/sq.km. General Statistics Office of Vietnam website,

http://www.gso.gov.vn/default_en.aspx?tabid=462&idmid=2&ItemID=9198, accessed 21/08/2010

exploitation of natural resources and the expectation that Vietnam will become an industrialised country by 2020, the levels of degradation of forest, biodiversity, land, water and the air, threaten to lead to further impoverishment.¹²

Nº	Pressure on key environmental issues	The level of impact on the environment						
		Forest ecology	wetland ecology	Agricultural ecology	Upland ecology	Biodiversity	Marine environment	Soil
1	Population growth	m	m	m	m	l	l	l
2	Industrialization	m				m	m	l
3	Urbanization	l		l	l	l		l
4	Agricultural development	l	l	l	l	m		l
5	Mineral product exploitation in inland areas	l		m	l	l	m	l
6	Oil and gas exploitation in offshore areas		m				m	
7	Thermal power development							m
8	Hydraulic power development	l		l	l			l
9	Waterway transportation development							
10	Road system development	l				l		l
11	Airway transportation development							l
12	Aquaculture and fishery development		l			l	l	
13	Tourism development	m			m	m	m	m
14	Land use	l	m	m	m	m		l
15	Environmental incidents/occurrences	m	m			m	m	m

l - Impacts causing heavily environmental degradation

l - Impacts causing moderately environmental degradation

m - Impacts causing slightly environmental degradation

Fig 5: Levels of impact on key environmental issues in Vietnam (Source: UNEP)

The major cities struggle to provide enough energy and clean water to their inhabitants, and their incapacity to deal with the volume of waste produced is equally concerning. Further to this, the climate change debate is of particular significance to Vietnam. Its low lying topography and dependence on the two delta regions for rice production (vital both to the food security of the country and an export product) puts Vietnam in to the top 12 highest-risks from rising sea levels, storms and floods due to climate change.¹³

¹² United Nations Environment Programme (UNEP), State of the Environment in Vietnam 2001

http://www.ricap.unep.org/pub/soe/vietnam/overview/the_key_issues_of_environment_in_vietnam.htm accessed 21/08/2010.

¹³ IRIN Humanitarian News and Analysis article, *Global: Twelve Countries on climate change hit-list*, 8 July 2009

<http://www.irinnews.org/Report.aspx?ReportId=85179>, accessed 21/08/2010.

Six Climate Threats, and the 12 Countries Most at Risk				
Low Income		Middle Income		
Drought	Flood	Storm	Coastal 1m	Agriculture
Malawi	Bangladesh	Philippines	All low-lying Island states	Sudan
Ethiopia	China	Bangladesh	Vietnam	Senegal
Zimbabwe	India	Madagascar	Egypt	Zimbabwe
India	Cambodia	Vietnam	Tunisia	Mali
Mozambique	Mozambique	Moldova	Indonesia	Zambia
Niger	Laos	Mongolia	Mauritania	Morocco
Mauritania	Pakistan	Haiti	China	Niger
Eritrea	Sri Lanka	Samoa	Mexico	India
Sudan	Thailand	Tonga	Myanmar	Malawi
Chad	Vietnam	China	Bangladesh	Algeria
Kenya	Benin	Honduras	Senegal	Ethiopia
Iran	Rwanda	Fiji	Libya	Pakistan

Source: World Bank

Fig.6: Six Climate Threats and the 12 countries most at risk.(Source:IRIN)

The effects of environmental degradation can be seen from the city centres, through the industrial outskirts and in to farmed agricultural and plantation land. At the edge of this, pressure is put on the relatively undisturbed tropical forests that harbour the vast majority of land based biodiversity. This front line forms the framework for this study. It explores this zone where the human world and that of the majority of other land based species clashes. It questions the values we place on the natural environment based the benefits provided for humankind, as well as the values we place on other species.

3. Methodology

This research was conducted over the course of three months in the summer of 2010 and split between desk-based study in the UK and fieldwork in and around Cat Tien National Park in Vietnam. Following initial background reading into the topics of study, I set about preparing and taking a series of structured and semi-structured interviews.

The decision to use key informant interviews as the primary research method was based on several factors. Firstly, this type of research lends itself to the aims of this project as it targets people who are directly involved in conservation in the region or who are directly affected by it. It allows in depth questioning to unveil indirect links and provide unexpected answers. Due to the personal approach, it also gives the opportunity to engage the participant more fully into the reasoning behind the research, and the nuances in delivery of the answers may be picked up on, i.e how passionately they feel about the subject in question.

My previous involvement in the region also gave me a starting point to engage key people for the research. I was able to make further contacts through introductions and recommendations stemming from the preliminary interviews. This was particularly helpful in engaging professionals in the environmental field and government officials, who (as neither a scientist nor a professional) may not have had the patience for my incessant questioning under other circumstances. It was also an effective technique for getting the opportunity to talk to local people. I got the impression that through being introduced, people were much more trusting of my motives and willing to talk openly of their experiences. I also tried to prevent people becoming defensive about sensitive subjects by asking more collectively whether people in the area did this, or feel that, rather than directing the question personally at them.

In total twenty-six interviews were completed with individuals and groups. All were done in person except one which was conducted by video-conferencing. Further to this, three emails were sent with specific questions to professionals who were unavailable for interview at the time, and one reply received. I also received related technical documents, maps and reports from several respondents. Plans to visit two more remote areas were hampered by flooding, common at this time of year. These were planned in relation to information received from completed interviews, which would have helped verify certain statements made.

Interviews were initially recorded in note form, with the additional tools of referring to maps, or explanation through drawing. Following the interview, these notes were used to document the conversation as I had remembered it. This partly relied on memory, with the use of noted prompts and key quotations. These are outlined as Appendices 1-5

After the collection of all interviews, a process of analysis involved pulling out key themes and structuring the report. This was primarily done through comparative matrices, documenting the interviewee, exact quotes and the context and implications of the quote. Examples of this are documented as Appendices 6-9. They are referenced by number, from the original interview in the matrices and also in the analysis summary where relevant. The analysis is further supported by external secondary sources of documents directly relating to the region and activities, as well as theoretical global themes that the subject matter is concerned with. On occasion I have included information in the text that I have collected from short conversation or passing comments during my time in Cat Tien to illustrate points made. Where appropriate, they have been referenced in note form in the appendices.



Fig 7: Interview Notes



Fig 8: Interview Script



Table 1: Territorial and Status Implications for Cat Tien National Park

7.2 Contributions to Zoology and Conservation Management

Fig 9: Matrices

4. Dissertation Structure

This dissertation is structured around the findings of my research. The chapters are divided into four sections: *Background*, *Territory*, *Value*, and *Synthesis*. In the middle sections of *Territory* and *Value*, the collected data is analysed under these categories.

In *Territory* the interviews form the groundwork to question the idea that people perceive 'nature' according to the spatial environments in which they live and work. In *Value* the interviews are reanalysed to discuss the idea that the values that people give to nature (and products of nature) need to be contextualised to understand how people relate to the environment and therefore the forest.

Within these two sections, key themes are extracted in which the opinions of interviewees on the subject matter are compared. In *Territory* the themes are based on different constructs of 'space' (both static and variable), whereas in *Value* themes are based around different types of resources and the links between them.

This is followed by the final *Synthesis* section, which brings together the ideas explored in sections 2 and 3 to ask the question 'who benefits?' A way forward is sketched out through the analysis of conflicts in ideologies and activities surrounding the preservation of biodiversity in Cat Tien and their implications.

5. Limitations

In collection and analysis methods:

Personal opinions may not be reflective of the position people hold or of a general trend in the community. However, unexpected answers could be verified by further questioning and triangulation of sources. I am aware that this is particularly problematic in a professional context, for which Government officials, NGOs and other professionals may at different times be expressing personal views, the view point of their position, or the viewpoint of the body for whom they work. As a lesson learned, I would aim to clarify key quotes as to who they were representative of. Inevitably there are limits to objectivity in using this method of data collection, both on the part of myself and those interviewed, although I would argue that any form of data collection is subjective to some extent.

Physical Limitations:

Many of the interviews were conducted in Vietnamese, which is a secondary language to me. Although I am confident I haven't seriously misjudged intended connotations, there may be things that I have missed in the nuances of the language. The same applies to interviews conducted in English with people whose first language is not English. For key quotes, I tended to clarify answers to ensure no misinterpretation. In some instances Vietnamese was a second language to both myself and the interviewee. This made detailed questioning difficult and in one instance I asked questions to a member of the Ta Lai community through the interpretation of her daughter. (App.2.6)

Access to remote areas, especially due to flooding was another limitation. I hoped to interview people from two other communities; one in the north of the park, and one in Vinh Cuu Nature reserve, however I didn't get an opportunity to do these journeys. I am aware that these interviews may have added another dimension to the project, as 'accessibility' and infrastructure are assumed to be determining features of the concepts discussed.

6. Technical and Ethical considerations

All interviews were conducted with the consent of the individual or group and understanding of purpose and secondary sources are cited in footnotes and bibliography.

All photographs containing people were taken with permission and other photos or personal documentation are used with permission and credited.

The identities of those referenced in interview and conversation have been concealed and referenced only by their profession, position, gender and/or age where appropriate and relevant to the purposes of this dissertation.

My interests in the park and project have been clearly identified at the beginning, and I have taken measures in the conduct of my research to try and avoid bias.

PART II:
Territory

CAT TIEN BIOSPHERE RESERVE

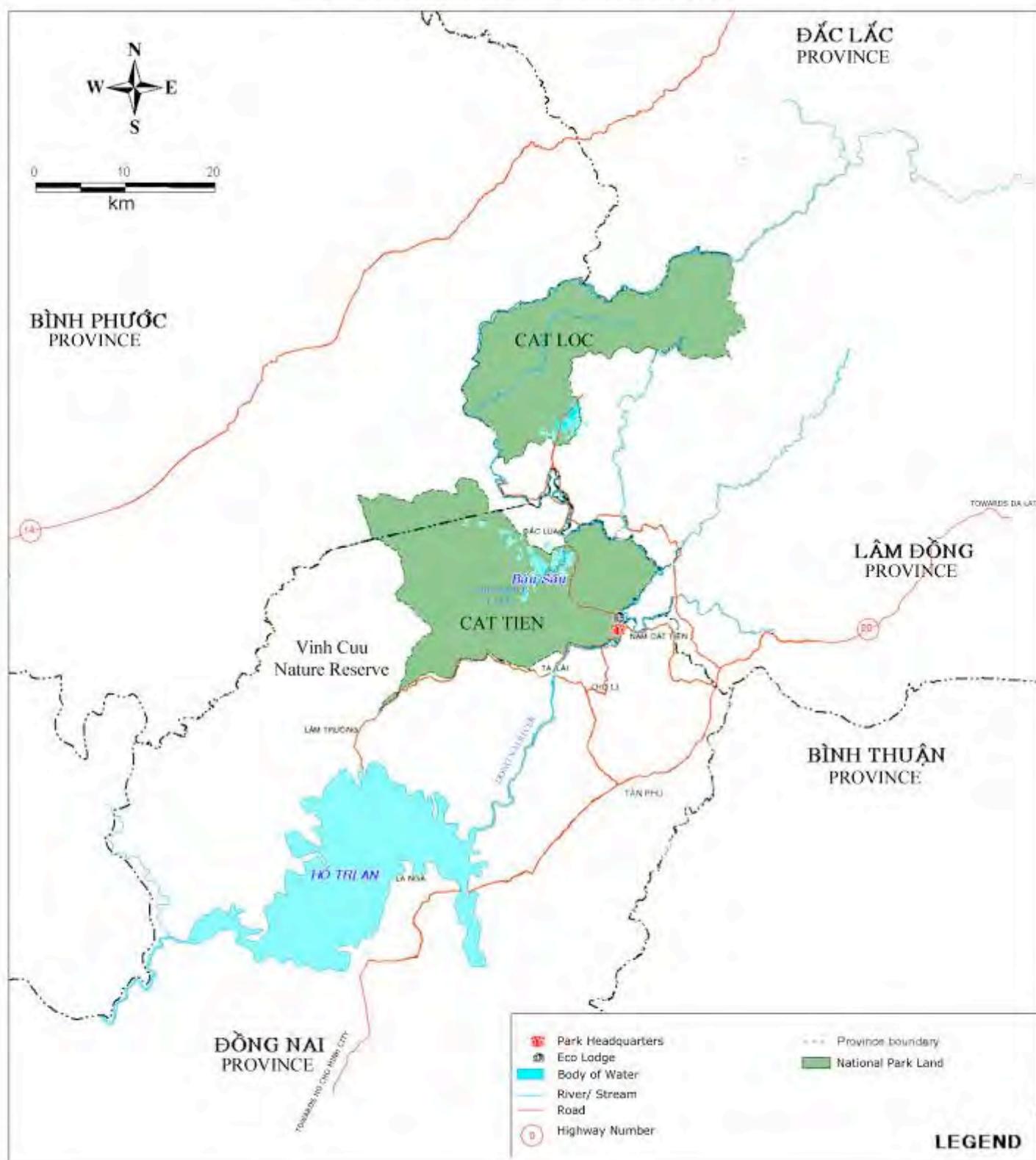


Fig 10: Cat Tien National Park

7. Defining Boundaries

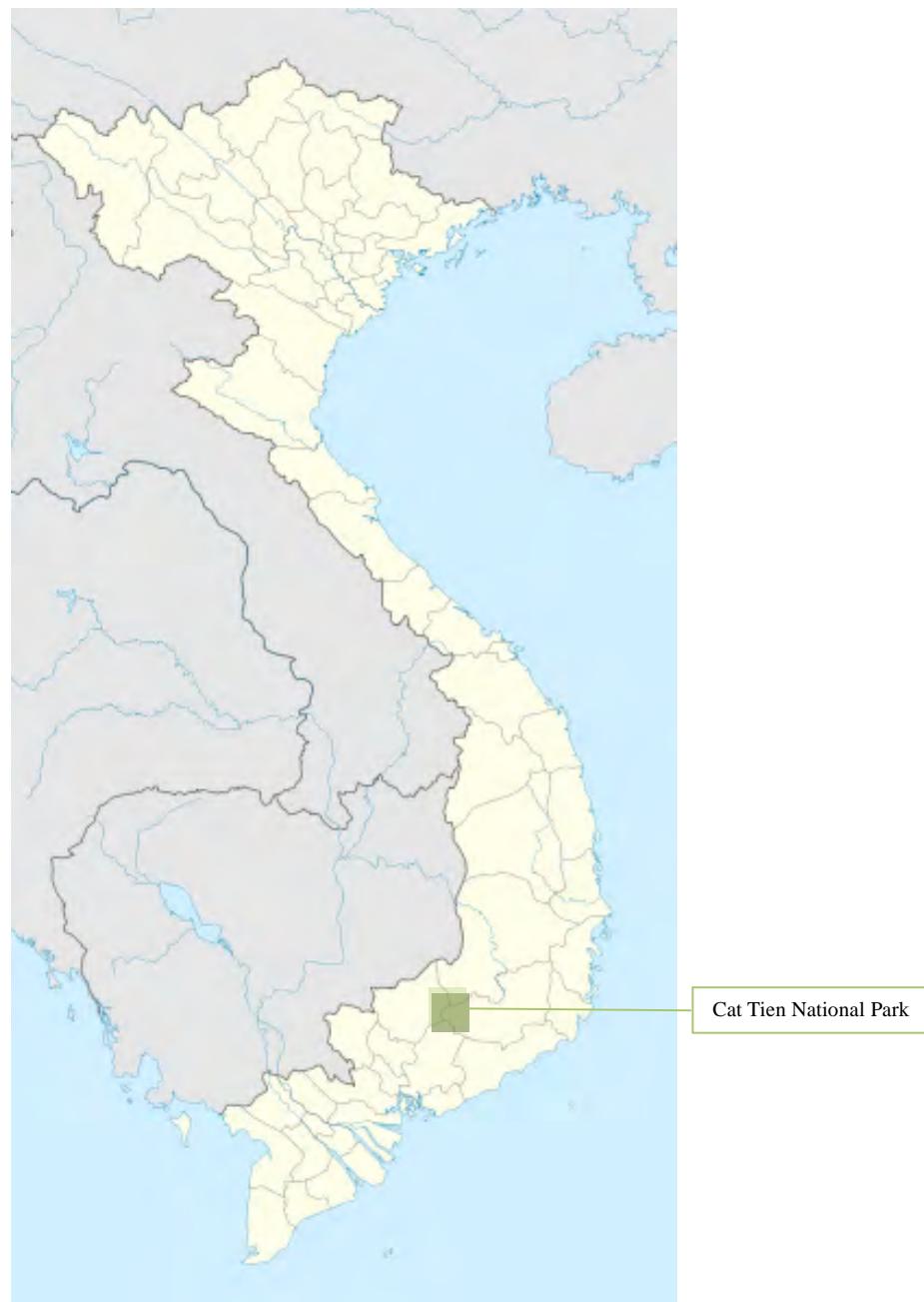


Fig 11: Cat Tien Location (Source: Wikimedia Commons)

The current destruction of our forests will lead to serious effects on climate, productivity and life... The forest is golden. If we know how to conserve and manage it well, it will be very valuable¹

By 1978 the “Forbidden Forest of Nam (South) Cat Tien” was formed along with Tay (West) Cat Tien an adjoining sector. In 1992 another nearby reserve was added after the discovery of the Vietnamese Javan Rhinoceros. In 1998 the three were combined and ‘Cat Tien’ declared a National Park.² It was the discovery of the Rhino that put Cat Tien on the international map, attracting International Conservation and Wildlife Organisations as well as research scientists and tourists. Efforts to protect the boundaries from surrounding encroachment and degradation have been aided by this support through funding and technical assistance.

In April this year, one of the last rhino was discovered shot dead with its horn removed.³ This begs the question how will the loss of the Rhino affect the status of the park?

It is likely that the long established legal status of Cat Tien as a National Park would remain, with the continuing implications for the surrounding populations being that “‘Hunters’ become ‘poachers’; ‘settlers’ become ‘squatters’ and ‘land conversion for agriculture’ becomes ‘deforestation’. ‘Protected area legislation turns the locals into thieves.’⁴

In the National Park, the decision has been made that the potential this bank of genes holds takes priority over the potential its resources have for human consumption. Yet the enforcement of this policy seems to be failing, with encroachment, logging and poaching activities prevalent in the area⁵.

The failure to manage this protection campaign will have implications on its international status. With 40 species in Cat Tien on the IUCN Red List⁶, combined with the likely loss of the Rhino, the failure to conserve these species could loose Cat Tien the support it has previously had. Some of these failures may be explained through the different understandings of how these borders lie, and what they mean.

¹ American Museum of Natural History website, <http://cbc.vietnam.amnh.org>, accessed 02/06/2010

² MARD/WWF Technical Report No.9, Biodiversity Conservation Survey, Monitoring and training needs for special-use forests, (2002) Hanoi, p12

³ <http://www.cbsnews.com/stories/2010/05/10/tech/main6470772.shtml>

⁴ Jeanrenaud,S, *A study of forest use, agricultural practices, and perceptions of the rainforest, Etinde Rainforest, S W Cameroon*, ODA, London (1991), p63

⁵ Quote: Deputy Park Director CTNP, Appendix 1.1.4

⁶ www.namcattien.org/conservation.htm, accessed 02/06/2010

7.2 Geophysical and temporal contradictions

As a National Park, Cat Tien is often described by its biogeography as part of the Greater Annamite mountain range. Situated "...at the junction of two distinct biogeographical zones—the temperate north and the tropical south—the Greater Annamites ecoregion encompasses an incredibly broad, diverse and special range of habitats, animals and plants"⁷ This implies a continuous expanse of wildlife, an uninterrupted 'ecosystem' of exotic species harmoniously living together. In reality, the biodiversity is a highly fragmented patchwork of national parks, nature reserves and commercial forested areas, providing islands of habitat, enclosing roaming animals and surrounded by an increasingly expanding sea of development.

The geography of Cat Tien has implications for both its protection and destruction. Bordered one side, the Dong Nai River provides a physical barrier to encroachment from the heavily populated Dong Nai Province. However, its presence doesn't stop other degradative activities, and in some cases aids them.

The water level of the Dong Nai at the park headquarters fluctuates by about six metres between the height of the wet season and the low point of the dry season, impacting the level and type of degradative activity experienced at the official border.

In the dry season (Jan-Apr) a route along the eastern edge of Cat Loc is used for transporting rattan. There is also more encroachment because the forest is easier to burn. In the wet season, this is when the river is strong enough that people can log trees and float them downstream to the other side, where they can collect them without being caught (App.1.1.6)

The other temporal issue concerns the productive seasons in agricultural practices. As the dominant industry in the area, the majority of people surrounding the park have busy months and unoccupied months dependent on planting and harvesting seasons. Cashew is one of the predominant cash crops grown in the area and as one farmer notes, his tending activities mainly fall within three months of the year between December and February. During this time he would work every other day, which still leaves 318 days of the year in which other work can be found. It is common in the area that people seek day labour or flexible jobs to supplement their income from agriculture, and with limited job opportunities outside this industry, the alternative is to engage in forest exploitation activities. (App.5.2.14, 5.4.22)

⁷ WWF greater Annamites Ecoregion
http://wwf.panda.org/what_we_do/where_we_work/project/projects_in_depth/greater_annamites_ecoregion/ accessed 16/08/2010

7.3 Contradictions in Zoning and Government Management

Interviews regarding the boundaries of responsibility and ownership in the Cat Tien region resulted in some conflicting understandings and viewpoints of what those boundaries mean. Although the physical boundaries are largely uncontested, ambiguities were apparent regarding the activities that were supposedly permitted or advisable in each zone.

The Deputy Director for CTNP (as a representative of the Forestry Department) describes the National Park as the core zone, with a surrounding buffer zone and transition zone in which he believes it should be permissible to live without any further destruction to forested land. (fig.12) The importance of this is described in terms of the state of biodiversity of an "ecological hotspot", and the protection of the buffer zone as an integral part of the conservation of the National Park. However, the buffer zone and transition zone are not under the management of the Forestry Department, but split between the four surrounding provinces, each with their own plans and agendas. (App.1.1.2 & 1.1.4)

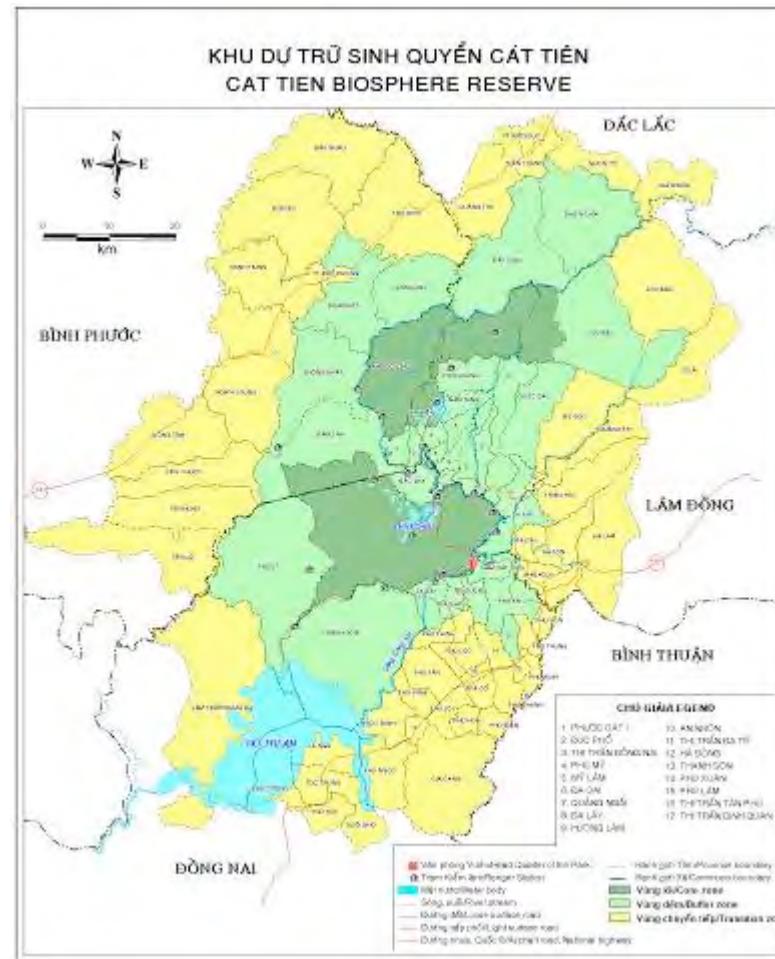


Fig 12: 'Buffer Zone' (Source: Cat Tien National Park HQ)

“We need to look after our skin, flesh and bone to lead healthy, happy lives. What life is left when there is only bone”⁸

In the district of Tan Phu, which borders the National Park to the east and intersects the buffer zone and transition zone, there was no mention of this system affecting the People’s Committees development plans, and policies for protection would in fact go against the district’s priorities. These priorities lay in the promotion of economically driven industries such as agriculture, construction, infrastructure market development and technology (Note: bias towards economic activity may have been accentuated due to one of the interviewees representing the Department of Commerce. However, the Deputy Chair would have more likely taken a wider viewpoint.). As an observation, every room that I walked past had a map of Tan Phu Town, which is the largest and most accessible settlement in the District, which implies that priorities for governance are concentrated towards this part of the district, rather than at the more remote park border.

This is also true for law enforcement with inconsistencies concerning the cross boundary coordination between Park Rangers and District Police. The statement that the police bring in recaptured animals “maybe once or twice a year” only suggests a lack of priority for conservational law enforcement in this department as well. (App. 1.1.9, 1.4.13,1.4.32)

There was also the suggestion that the National Park should be within the District’s control, with the statement from the Department of Commerce representative that “This district would be 77,000 hectares, but the National Park already takes up 39,000 hectares of that.” This infers that the Park is seen as a wasted resource with little benefits for the district, including the money that the park generates from tourism, and there is a general attitude that implies a lack of willingness of cooperation with the Park. (App. 1.3.16)

In the neighbouring District of Vinh An, Vinh Cuu Nature Reserve is joined with Cat Tien National Park by a narrow strip of forest. Both the Deputy Director of Cat Tien, and the Director of Tourism for Vinh Cuu talked of the joining of the two regions as a viable management strategy for the area, especially for the protection of the small elephant population. However, who would be in control of that management and at what level was contested. The argument for control at Ministry level was centred on the higher protection classification of ‘National Park’, whereas the argument for Department level was for more specific control over resources and funding. (App. 1.1.25, 1.2.12)

⁸ Deputy Director CTNP, on the diminishing buffer zone (App. 1.1.4)

However, the incorporation of environmental issues into other sectors does seem to be improving on a policy level. The park Guard mentioned that the subject of environmental education is now a part of the syllabus, and the environmental consultant indicated that the work he did was framed around Vietnamese standards. (App.5.5.27, 3.1.14)

Both recognise the improvement and increase in number of policies concerning the environment, but identify gaps in the effective implementation and enforcement of the activities. With conservation education not being fully integrated into the school syllabus, the issue takes a back seat. In a similar way, market orientated activities take priority for the industry sector, and the issue manifests itself as short cuts and corruption in avoiding meeting environmental standards.

These inconsistencies are supported by Professor Le of the Institute of Biological Resources, in his report on *Biodiversity Research in Vietnam*.⁹ In it he identifies certain gaps and constraints in the country’s biodiversity conservation, including:

- Lack of comprehensive Nature Protection Strategy that clearly defines the responsibilities of ministries, sectors and local authorities to participate and make contributions;
- No classification system for all types of nature conservation areas. At present the classification system for special use forests ...only applies to protection areas with forests that are controlled by the forestry and agriculture sectors. All others are now managed by many other ministries and sectors;
- Most government policies concentrate on special-use forest protection and completely ignore development trends and reasonable use of natural resources
- Coordination role at ministerial level, institutional development among governmental agencies and duties in the conservation of resources are not clearly identified.

Fig 13: Gaps in Conservation Strategy (Source: ASEAN Biodiversity)

⁹ Le Xuan Canh, Biodiversity Researches in Vietnam, ASEAN Biodiversity vol.4, 2004, p42-43

7.4 Conflicts in Local Interaction with the ‘Forbidden Forest’

How people are living within the direct vicinity of the park borders, interact with the forest boundary is the focus of much of the protection effort by the ‘*Kiem Lam*’ Rangers and Forestry Department officials. It’s important to note the reasons for settlement of different communities surrounding the park, in terms of security and lifestyle, which impacts on the relation they have to the forest. There were three types of communities described from the perspective of the Deputy Director of CTNP.

Firstly ‘The villages of Nam Cat Tien, Nui Tuong, Dac Lua and Phu An are all communities of ex-soldiers of the dominant ‘Kinh’ ethnicity so these local communities have grown from a connection to their profession. With a relatively short historical connection to the forest people talk of how the area used to be, as remote, hostile and undeveloped. This, combined with the sense of abundance to resources has resulted in a major effort to convert forested land to agricultural land. The timber merchant refers to houses being built from the hardwoods felled in the area in the 1980s before the park borders were well established (App. 5.4.10). People also talk of their hometowns “que huong” to be elsewhere (many are from Thanh Hoa in the North originally) and yet many were born in the area and have no direct links to their ‘home town’ or have not been back for many years, and there are few local visitors to the park for recreational purposes, with people preferring to holiday elsewhere in more developed towns and cities. (App 1.1.15, 5.3.19, 5.5.29)

There is also the village of Ta Lai, which came about as a settlement programme ('Integrated Boundary Re-Demarcation and Resettlement Action Plan')¹⁰ for traditionally shifting cultivators. The programme was partly a bid to link up the fragments of forested land into one protected area, as a direct response to the rediscovery of the Javan Rhinoceros. Through a two-step process¹¹, the ways of life of these communities were changed and their relationship with the forest. Historically theirs, to be shared with other species, the fortress mentality that has been created by designating the area as a National Park, is exclusionary, where the new rules of nature conservation override their historical values. For some forest products, the rules are relaxed and minorities are allowed to harvest leaves that they used to eat, displaying an empathy local rangers have with missing an old way of life. However there seems to be the understanding that animal poaching ‘is wrong’. This is more to do with the way it

¹⁰ Morris and Polet, (2004) *Landuse rearrangement and Landscape Planning*, Cat Tien National Park Conservation Project, p.10

¹¹ The minorities were firstly moved to the southern part of the park and allowed to continue to practice shifting agricultural techniques, before being permanently settled in a government built village in Ta Lai (Appendix. 2.4.8)

is consumed rather than the resource itself, as animals are more likely to be sold to ‘Kinh’ communities for a profit, than the low value leaves that are consumed by themselves. (App. 1.3.14, 2.4.8, 2.4.14)

The third type of community described is in the northern region of the park, and are of indigenous and non-indigenous ethnic minorities in three separate settlements and were also subject to the plan. This remote area was inaccessible to me during the research period and so the account given of activities in the area were primarily from a single source.¹²

As well as the Native Chau Ma and X’Tieng communities, there is also a group of Tay people who migrated from the Northern Highlands in 1990. The decision was made that these groups would be settled by giving them rights to smaller areas of land in the same location for intensive agricultural use. This area is defined to be inside the National Park Boundaries, so concessions were made for a small number of households to stay, with the understanding that they would no longer use forest resources, and help protect the forest from degradation by other communities. The Deputy director still describes the status of these villages as illegal, even though there has been this agreement and efforts have been made to improve infrastructure, access to schools and hospitals (including monetary subsidies for ethnic minorities) and technical assistance on farming methods in the area. On the subject of people living within the park boundaries, a ranger insisted that there was no one living permanently there, only a few rangers (map). This suggests that the level of development is relatively permanent at these locations and has redefined the appearance of the park boundary. The park director doesn’t consider this approach to be effective due to weak links in the policy.

They are allowed to farm areas of converted forest land as compensation for not being able to subsist on the forest any more. But this doesn’t work because the ‘Kinh’ people buy land illegally from the minorities which encourages further encroachment (and impoverishes the minorities) and so many people intermarry... who can be considered minority of majority any more? (App. 1.1.6)

His suggests that the loopholes in policy are the reason why the communities of ethnic minorities remain poor.

Families like K’Mot’s should be rich. He has four wives, whom he gives each 6 hectares to farm, so a total of 20 hectares given by the government. But because he doesn’t manage it well, they are poor. The minorities don’t know how to farm. They are hungry so they have to sell the cashew too early for cheap prices. There is a (male)

¹² Deputy Director CTNP (Appendix 1)

*culture of drinking and so the subsidies from the government go in to his pocket, and they continue to go to the forest to find resources*¹³

The suggestion that the resettlement action plan concerning Ta Lai has been more successful than the boundary re-demarcation plan by the Park Director is directly contradictory to the conclusions McElwee draws in her debate at the time. She states that

*Examples from Vietnam (later with direct reference to Cat Tien) show that in fact relocation does not necessarily provide the grounds for better biological integrity, primarily because relocation of local populations has often entailed their being replaced by other groups - hunters and poachers, immigrants, or other business interests - that have even a greater impact than the people originally moved.*¹⁴

Four years later it seems this hasn't been the case, with more encroachment issues concerning those who weren't resettled as opposed to those who were. I would argue that the imposed change on the way all these communities practice agriculture, and therefore relate to the forest have had the bigger impact on encroachment and degradation. Due to this action, both types of settlement have been encouraged to trade and interact more with the dominant 'Kinh' community, and whilst clear boundaries have been largely enforced in Ta Lai, the vagueness of policy concerning villages in the northern region of the Park have increased the impact from 'other groups' on the forest.

The article also refers to the fact that these minority groups were being unfairly targeted, not only because a lot of deforestation activities were carried out by state development plans and previous logging, but also due to the fact that a survey done in 2002 showed that 85% of park violators were ethnically Vietnamese ('Kinh') while only 2% were Chau Ma, and 4% were X'tieng.¹⁵ By considering the circumstances under which these three types of communities settled and their historical connections to the forest, it is easy to see how these statistics have come about.

The final 'territories' to mention in this section are that of roaming animals. As previously mentioned, Rhinos have played a significant role in reforming the physical and social boundaries of certain groups. Whereas Cat Tien is forbidden for human development, its preservation and formation as an ecosystem is partly shaped by 'right' to life and shelter that has been designated by the influence of

¹³ Deputy Director (App.1.1.16)

¹⁴ McElwee, D, (2006) *Displacement and Relocation Redux: Stories from South East Asia*, published in Conservation and Society, Vol.4 Issue.3 p396-403

¹⁵ Originally sourced from Morris, J., G. Polet and N.D. Son (2004) *Park Violations in Cat Tien National Park and SocioEconomic Characteristics of Violators*. Cat Tien National Park Conservation Project Technical Report No. 51

pressure groups on policy makers. In the case of another large mammal, the pressures on the elephant population's habitat have driven them to areas populated by humans. In this contest for territory, the elephants threaten people's livelihoods by destroying crops and homes and occasionally kill. This view of elephants as a pest drive them firstly to protection measures, but also to killing them¹⁶ (App.1.2.6, 5.2.20)

In the previous section I have suggested that the ways in which people have settled and work, determines their relationship to the forest:

Hunter-gatherers have an almost religious reverence for nature. Animals, plants even rocks and rivers have souls. Plants and animals are taken as needed- but with due concern for sustainability, since over consumption of wild food sources will deplete them and threaten group survival.

*However, most early hunter-gatherers did consume beyond the limits of their wild food supply. As populations grew, agriculture spread, and allowed population to grow further. With agriculture comes a shift in attitudes. Wild nature is no longer the main source of food, but the cradle of weeds and pests and the den of predators. And it is potential land to be cleared for farming. Attitudes to wilderness change from reverence to revulsion, fear, desire to exterminate, tame and convert.*¹⁷

7.5 Population Pressures?

Another paradigm is to view our connection to nature as a reflection of population density. Later in the above text the determination of population levels is further argued, with different theories influencing environmental policy in relation to agriculture, industry and sexual politics in terms of direct 'population control'. The process of complete separation described is used to explain feelings of reverence, with large-scale urbanisation and overcrowding the conditions from which we seek sanctuary and the solace of unspoiled countryside.

That the government's policy to settle previously shifting cultivators was essentially forced, rather than due to a 'natural' increase in population within the minorities, may reveal why there is such conflict between their historical culture and the lives that they now live. (App.2.3.4, 2.4.8). It is suggested that pressures on the forest are not primarily due to the traditional activities of the minorities,

¹⁶ VietNamNet News Article, Poisoning Feared in Several Elephant Deaths, 2 June 2010, english.vietnamnet.vn/.../Poisoning-feared-in-several-elephant-deaths-913791/ accessed 15/08/2010

¹⁷ Harrison,P. The Third Revolution: Population, Environment and a Sustainable World, (1992) Penguin Books, p299

but their increased interaction with the more dense surrounding ‘migrant’ population, that rely on more sophisticated infrastructure to support their communities.

When people move from building with bamboo, to building with brick, and roads are built for motorbikes instead of walking, it becomes harder for conservation. Roads cut the path of fauna. Where ever there is electricity, people will build.¹⁸

With such a rapid rate of population growth in the country, and Malthusian ideas of and the threat of inadequate resources, ‘population control’ factors strongly in the government’s policies.¹⁹ Propaganda posters that have long been part of the Vietnamese landscape now read “for man and wife, one or two children is best” (fig). The measures for population control as described by a male community member suggest the government are trying to persuading people to aspire to a nuclear family lifestyle.

With three children or more, the family is not allowed to be called “Gia Dinh Van Hoa” (Lit. Cultured Family). The paper work for the third child is harder to get, and it is more difficult to get government loans. Some of the poorer families can get three year interest-free loans from the government. Families with two children get priority for those sorts of things, and the children are also more likely to get recognition from the government (that are likely to further their careers) if they do well at school.

It seems as though these controversial policies are targeted towards the rural poor, where large families provide the support networks integral towards pastoral ways of life. In the cities the ‘cultured family’ is commercialised, with advertising often featuring middle class families of four with aspirations to the wealth and lifestyle of the ‘western’ world.(fig 14) This shows a distinct shift in attitude from a communist government who previously idealised working in the fields and rural life.



Fig 14: The ‘Cultural Family’ (Source:ykhoavn.net)

It is often these urban middle class families that come to Cat Tien for recreational purposes, along with groups of students and international expatriates and tourists.(Appendix 4). There seems to be a general trend in which local communities around Cat Tien National Park prefer to go further afield for holiday if they can afford it, with the more urban settings being popular for their ‘vui’ (lit. ‘happy’) or busy atmospheres. This preference for busy, highly populated places does however appeal to the urban Vietnamese as well, and is seemingly contradictory to their choice of destination of Cat Tien. According to Harrison, people who live in highly populated areas want to find places to seek ‘sanctuary and solace’. Yet the trend seems to be that the urban Vietnamese prefer to travel to Cat Tien in large ‘vui’ groups to seek adventure rather than solitude, and creating for themselves ‘activities’ in a place where no entertainment has been provided for them. (App. 4.3, 5.5.37). Many turn up, and are disappointed that there are no wild meat restaurants, and ‘not much to do’, and western tourists complain of the levels of noise and litter. (App. 5.5.37, 4.1.16)

That isn’t to say all Westerners behave in a quiet, reflective way when surrounded by such nature, nor do all Vietnamese people make lots of noise and throw rubbish around. These are certainly taught behaviours that seem to differ between the current trends in say British and Vietnamese main stream education.²⁰

¹⁸ Deputy Park Director (Appendix 1.1.19) Note: He describes the reason for population growth to be technologically determined rather than economically or socially.

¹⁹ Geoffrey Gilbert, introduction to Malthus T.R. 1798. *An essay on the principle of population*. Oxford World’s Classics reprint.

²⁰ LEEF, From CEE to SEEd, <http://www.leef.org.uk/articles/from-cee-to-seed/> accessed 30/08/2010
In comparison too (App.5.5.27)

This suggests that population pressure is not a singular explanation of the way in which we interact with nature; it is a learned experience. Just as the *Chau Ma* man from Ta Lai ‘missed’ the leaves that they used to eat, the rapid separation from nature experienced by the urban Vietnamese in the last thirty years could explain why there is still a romanticism attached to the countryside. Yet without the knowledge of the threat to its loss and the perception of abundance that has come from decades of land clearing and resource exploitation (See 7.3), the ‘respect’ for wildlife that the international tourists value is not apparent in the attitude of many Vietnamese middle class. This suggests that although it is our surroundings that shape the way in which we see nature, it isn’t that an urbanite seeks the space that they would not normally have, but it is an attachment to their memories or cultural heritage; it is formed by their values.

7.6 The ‘Problemshed’

The problemshed captures the operational context in which decision makers and their problems exist... It is in the problemshed that solutions can be found²¹

The influences on the park are determined by the larger systems to which it is a part of. The influence national environmental policies have in terms of state and provincial strategy and implementation has been previously discussed. Further to this other bodies are able to put pressures on certain agendas whether constructive or destructive to the park’s own agenda. This can be framed by the focus and scale of activities that potentially influential actors implement.

The activities of the NGO directed at the National Park are influenced by their field of expertise and the level at which they work. At a regional level the NGO designs projects targeted towards Cat Tien from the context of it being part of the Greater Mekong Region.

“...you can’t see an ecosystem as just as an island of living things. They are more connected at larger scales. To preserve a defined ecosystem does not guarantee the protection...” (App. 3.2.13)

This perception of ‘larger scale connection’ can be seen as Cat Tien’s “Problemshed” – the attempt to cover the entire context in which the park exists, is influenced and influences. The strategies formed at this level structure the basis of how projects are designed

²¹ Allan, J. A. (2002) *The Middle East Water Question: Hyrdopolitics and the Global Economy*, I.B Tauris & Co, p. 337

at specific locations, in this case Cat Tien, and are left “purposefully vague”²² as to be able to allow flexibility at the local level.

However, within the same NGO it has to be questioned whether there is a contradiction in the regional strategy and its publically perceived strategy. At international level, the NGO sees the roaming ground for the Javan Rhinoceros as one in many flagship species territories. This doesn’t take into account the 1000s of other species that form part of the Greater Mekong Ecosystem, but ‘is representative of the issues concerning wildlife’ and are ‘directly targeted as a result of other activities’. The strategy to keep a single species alive becomes a fund raising activity appealing to the public’s attraction the species in question. (App.3.2.15, 3.2.17)

On the other hand, at local level, the NGO worker expressed frustration at the pressure from the donor to have a “successful” project. The goal set out at regional level, in this case for “Ecotourism in and around protected areas (to) directly benefit the livelihoods of local communities and contribute to nature conservation”²³ does not support the framework in which money is raised. There is a disconnect between what people are willing to give money for (an emotional action), and the practicalities of the best conservation strategy, for which a two year time frame rarely sees results.(App.2.7.10). And within that goal, the ‘flexibility’ that the project was designed to have does not correlate with the local NGO worker’s experience. On planting bamboo as a solution to sourcing materials for handicrafts:

We can’t do it. It’s outside the scope of the project. The donor has provided money for the proposal written last year, so we must stick to it. (App.2.7.14)

Like the Regional level NGO, the biologist focuses on ecosystems rather than individual species. However, he is not subject to the conflicts of marrying the expectations of donors to conserve flagship species, and the practicalities of conservation of the regions in which these species exist. He takes a more positive view on the levels of degradation, of the national park and surrounding areas.

A lot of it will have been cleared of the larger trees and animals, but for the few species that are taken out for their commercial value, there are still many many species that are left and thrive (App.3.3.17)

In the same line as the International NGO the levels of degradation are also subject to the removal of specific species, however unlike

²² Regional level NGO on how the logframe for the Ta Lai Eco-Tourism project was designed

²³ NGO, Project Logframe (Internal document)

the NGO to whom the National Park would be essentially ‘dead’ with the extinction of the Rhino, the biologist recognises the importance of keystone species. “A keystone species is one whose impact on its community or ecosystem is disproportionately large relative to its abundance.”²⁴ It is the removal of those species that is likely to have the most negative effects on the biodiversity of the region, and do not necessarily correlate with Flagship species. The biologist’s vision is arguably more reflective of the ‘problemshed’ than that of the International NGO, in terms of the conservation of biodiversity as the problem is linked with the targeting of species types. The drive to protect biodiversity from this point of view is in the interests of ‘science’. This poses a difficulty in its intangibility of outcomes, and funding relies on a belief that a scientific discovery may be valuable to the future of human kind.

As the biologist has indicated, regions can be mapped as measures of levels of biodiversity and therefore levels of interest to science. This is integral to the work of the development organisation who’s goal is to “improve the biodiversity of the Dong Nai river basin”, with objectives “to restore the forest and create linking corridors between areas of forested land; to create financial mechanisms for biodiversity conservation services; to improve livelihoods; and to raise capacity of governance for biodiversity”(App.3.4.2)

The ‘problemshed’ of the Dong Nai river basin takes on its original application as described by Allan (see the beginning of this chapter). As the focus of the the organisation is a ‘watershed’, the conservation of forest (including in the Cat Tien area) becomes a tool for restoring the water quality. However, the activities extend beyond the watershed, to the problemshed of engaging national government.

We’re working at all levels. We help support MARD (Ministry of Agriculture and Rural Development) to put in place decision no. 380 to test a policy for payment for ecosystem services (PES). We’ve done awareness raising for PES and biodiversity, and study tours to the US...(aimed at) the core working group, people at provincial level in Lam Dong and policy makers at national level.

The representative of the organisation also highlighted the problem of proving positive results for short term projects, but because of the nature of the funding (Bilateral Aid), the scope was directly linked with the donation.

Although the environmental consultant was describing similar goals for improving the state of the same ‘watershed’, the strategies used for for reducing the levels of industrial waste mean that the

‘problemshed’ is different. From discussions with the People’s Committee, it is clear that the promotion of industries is a major factor in the district’s development strategy.

What all this shows, I think, is the pressure each provincial government is under to meet economic targets and how unrestrained economic growth takes precedence over economic growth that is more responsibly managed. (App.3.1.15)

This is also the case at a national level and as demonstrated by the need for environmental consultancy in the sector, the concern for industrially caused environmental impacts is significant.

Water pollution in Vietnam in general, but particularly the Dong Nai basin is becoming such a concern that the government are being very cautious in the manner in which the issue is managed and publicised.” (App.3.1.11)

In environmental consulting, the focus is client project based, with the aim to enforce existing environmental policy in industrial sectors as mitigation of negative environmental impacts to human health and disasters caused by climate change. Boundaries are national level, however results are cumulative, therefore are difficult to measure e.g within a watershed. This is even more difficult to measure internationally.and impacts on Cat Tien are indirect. The suggestion is that these measures can prevent knock on effects industry pressures have on the countryside.

These strategies are not necessarily conflictual when the different goals are clear. The conflict comes in the debate over the level of importance of each of the goals and level of effectiveness they have. They also can conflict when unrelated organisations, companies and agencies are each working on separate areas within a “problemshed”. Effectiveness is to do with targeting and time scale and whether it is project based or strategy based. This also suggests that it would be useful for park authorities to be aware of the varying programmes and activities being carried on within their “problemshed” to build capacity for better integration and communication.

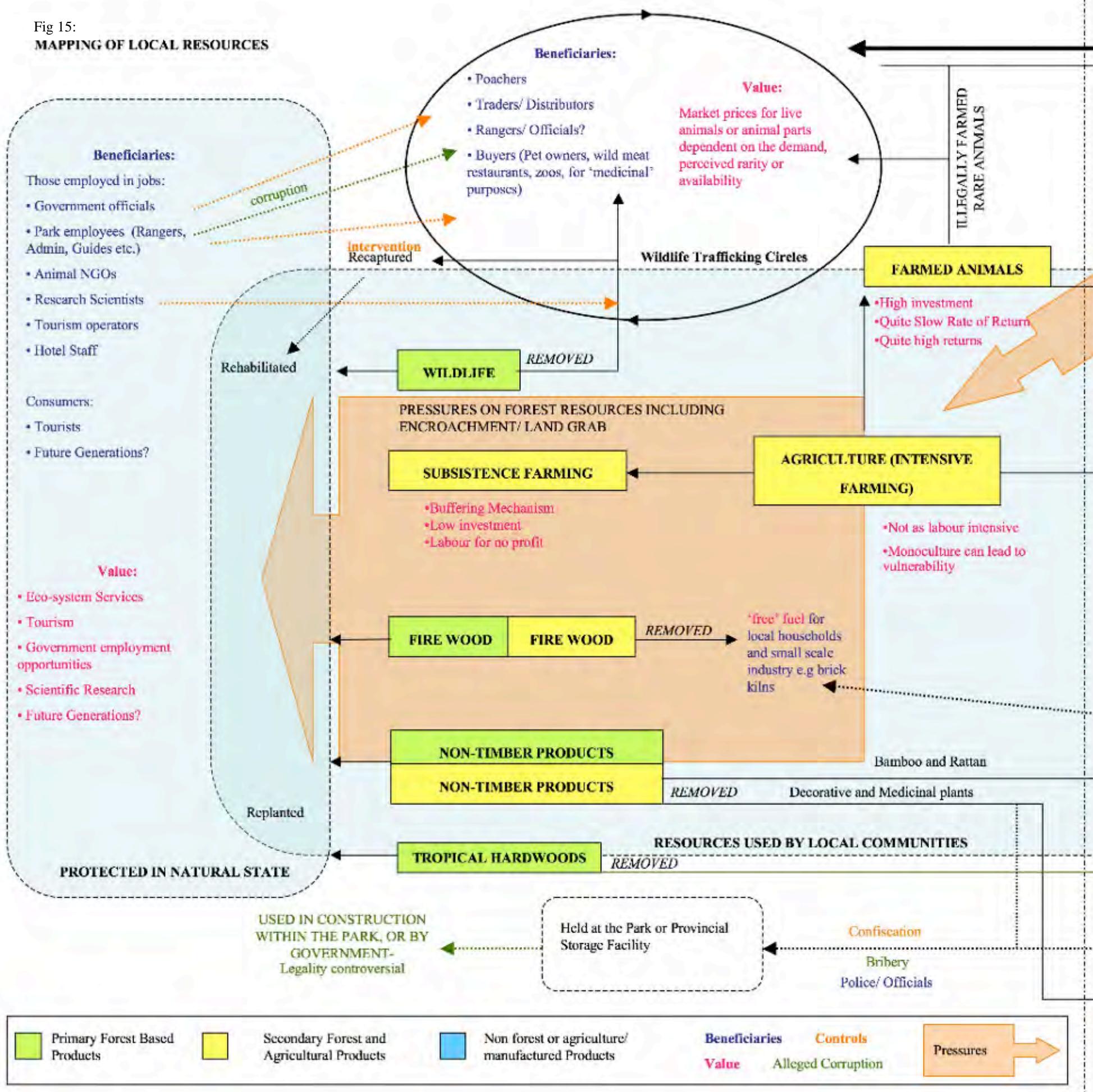
This section’s final chapter has linked the implementation of projects to the ways and reasons for which they are funded. In this sense, each project must be considered to have a value, whether that is a commercial value or a cultural value. This is explored further through the understandings of resources when linked to value in the following section.

²⁴ R. T. Paine, *A note on trophic complexity and community stability*. *American Naturalist*, 103:91-93, 1969

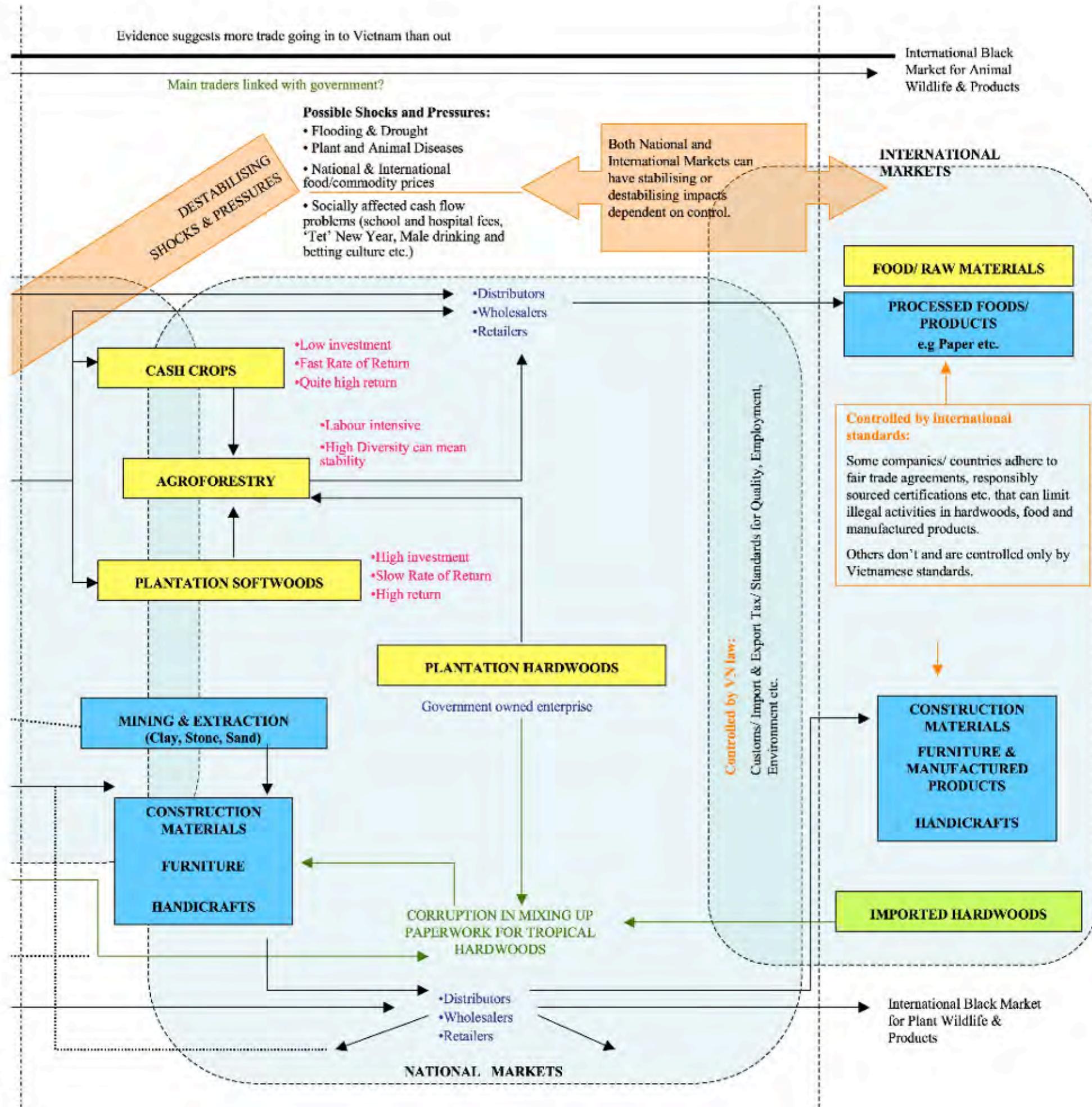
PART III:

Value

Fig 15:
MAPPING OF LOCAL RESOURCES



Evidence suggests more trade going in to Vietnam than out



8. Resources and Value

8.1 Overview

This section explores the implication of the placement of ‘value’ on resources. Framing this section around the goods and services that the National Park provides is easiest understood by their comparative economic values. Referring to these as ‘resources’ implies usefulness, or potential usefulness, from a human perspective. Such usefulness can come in the form of meeting human needs or wants. As touched on previously however, the values that people place on different things can be seen as culturally determined, therefore products cannot be valued merely by their immediate usefulness. To understand the relationship of resources to the National Park, they can be categorised as primary forest based products, secondary forest and agricultural products, and non-forest and manufactured products. Other resources that are more difficult to categorise include water, energy, ‘nature services’ and people. The difficulty of comprehending the value of these resources explains the rationale behind recent discussions of PES (App. 3.4). All of these resources have been mapped to demonstrate the links between different resources (fig 15). Their supply and demand can increase or decrease pressures on the park boundary. I’ve also attempted to map the beneficiaries of both consumption and conservation of resources to better understand the underlying reasons for the placement of value.

8.2 Supply and Demand of Forestry Products

The main resources exploited from the national park have previously been identified as wildlife, non timber products and tropical hardwoods. Firewood is also a forest resource which often plays a major role in forest degradation, however this doesn’t seem to be a priority issue for conservationists here.¹ Although wood is a significant local fuel source there is little need for its collection from primary forest due to the large number of tree crops planted in the area. The fuel wood supply from old cashew or tangerine trees is apparently meeting the demands of local households.

The values of tropical hardwoods can be identified as its value alive, protected in the park, and its value felled, for use as timber. Alive it serves the purpose of being an integral part of the ecosystem, supporting other forms of life as well as its own. The values of this will be explored in other sections as the collective value of the tropical forest ecosystem. As a commodity, tropical hardwood is in high demand, on a local, national and international scale for its use

as a construction material or furniture, which is reflected in the high levels of illegal logging in the park. (App. 1.1.10, 5.4.4, 5.4.10)

Vietnam has described as a ‘hub for illegal timber’², processing tropical hardwoods from the region (Thailand, Laos, Cambodia Indonesia etc.) even though Vietnam has increased measures to protect its own forest. This is supported by the Timber Merchant. (App.5.4.14). He confirmed a lot of new hardwoods were imported, and locally logged trees were likely to only supply the national markets.

“I wouldn’t say it is particularly difficult for people to get illegal logs into the timber trading routes. Essentially, once it has been mixed in with the legal stuff it’s very difficult for the authorities to track in the country” (App.5.4.18).

Local scarcity today is due to the post war exploitation of the resource when mass migration south aimed to relieve pressure on more highly populated areas. Hardwood trees were converted into housing for the expanding population, which now provides the core of his business. He explains that he can buy excellent quality aged timbers for the same price as new timber, the value being determined by quality and quantity. As people in the local area link status with using more modern construction and furniture materials, timber (already being an upgrade from bamboo) is devalued. This implies a cultural difference between urban and rural values for wood. The profit he is able to make is due to the added cultural value that the middle classes on connecting with a rediscovered heritage. (Fig 16)

Similarly, the most commercially viable non-timber products appeal more to an external market than a local one. The exploitation of bamboo and rattan from the forest is partly for local use, but much of it ends up woven into handicrafts and furniture for export. These materials seem to be connected to a rustic ideal, their novelty to tourists exploited by the ethnic minorities who sell traditional handicrafts. This was encouraged as part of an NGO project in developing ecotourism as an alternative livelihood strategy to forest cultivation. Ironically this is reliant on extracting the raw materials from the forest in order to make the products. (App.2.7.10)

¹ Not mentioned as an issue in any interviews

² BBC News article *Vietnam ‘hub for illegal timber’*, <http://news.bbc.co.uk/1/hi/sci/tech/7302732.stm> accessed 26/08/2010



Fig 16: On the value of timber:

“My best business is reclaiming timbers from old houses and reconstructing them for people from the city. They like the old traditional houses, and people here want brick houses.” (App.5.4.4-6)

The third significant forestry product to hold value to is wildlife. There are several dynamics to the commoditisation of wildlife in Vietnam, its values being dependent on it being alive in the wild, alive captured and killed. In the wild its value can be linked to biodiversity and to the tourism industry. This is illustrated by the presence of a group of Japanese tourists who had come to Vietnam solely for the purposes of birdwatching. One of them tells me, “this is one of the best places in Asia to see birds. Many of the species here, other places in Asia don’t have any more.”

For the International NGO coordinator for Flagship species, flagship species can be used as an indicator of how rich the biodiversity of an area is. Only healthy forests can support the largest animals. The protection of flagship species also has the added benefit of being the wildlife that people empathise most with, which not only makes them useful in the NGO’s campaign, but also means people are more willing to pay money to see them. (3.2.15, 5.6.24) The ‘attractiveness’ of wildlife to tourists is thus culturally determined.³

However, this same fascination for other species is also part of the reason for its removal from the forest, as pets and for zoos, fuelling international wildlife trafficking circles. On the national market, there also seems to be a high demand for animal products, primarily meat or for ‘medicinal’ purposes. Rather than a subsistence mechanism, wild meat is highly valued due to a macho drinking culture, supplemented with eating luxury wild meat. This seems to be highly systemic in Vietnamese male society both in rural and urban areas, and is also linked to superstitions about certain products giving health or strength. (1.1.10, 1.1.16, 1.4.3, 1.4.11, 2.2.12,)

Even at policy level the upholding of the CITES⁴ agreement that Vietnam readily signed up to takes a back seat to these superstitions, showing how ingrained this way of thinking is in the culture.

“We know who the main ringleaders are, but they are so entwined with the government that they are untouchable. The corruption is at every level. So when someone high up in the government decides rhino horn is a cure for cancer we lose 24 rhinos in Africa and one in Cat Tien. This is new. It’s not a traditional medicine, it’s a superstition.”⁵

Stopping the supply of illegal forestry products to markets must happen through enforcement measures or through decreasing the

³ Shackley, M, (1996) *Wildlife Tourism*, ITP London p19

⁴ Convention on International Trading in Endangered Species on Wild Flora and Fauna

⁵ International level NGO on wildlife trafficking (Appendix 3.2.7)

demand for those products. The evidence suggests that the demand for resources for subsistence is relatively small compared to the commercial values that can be placed on them. Tropical hardwoods, wildlife and non timber products such as rattan and decorative plants have become luxury items. The values placed on them are culturally formed, for which increased scarcity leads to higher prices.

The ‘illegality’ of extraction activities for these products is based on policy makers past or present valuing their existence in their natural state. As enforcement measures seem to be weak, especially in the control of trade, where does the reason for this contradiction lie? As the international level NGO puts it, “what is needed is political will”⁶. When the systems created at national level don’t provide the transparency and accountability to keep its enforcers in check the values of the extracted product can easily sustain corruption. But this ‘will’ cannot be forced upon the upper levels of government by the international community, not only because the agreements are voluntary and non-binding, but because the ideology of where the concern is based is so different to that of the national population’s.

Where the direct benefits to people are apparent and wide reaching, (such as the helmet law for motorbikes introduced in Vietnam in 2007, immediately cutting the number of serious traffic injuries in half⁷) the policy is more likely to be prioritised by the government for effective implementation and law enforcement. Actions that support the view that biodiversity is essential for the benefits to human kind are much more difficult to conceive at national level therefore need to be reframed to be directly beneficial at implementational levels. This is explored further in relation to ‘Values of ecosystem services’ (Chapter 8.4)

The actions involved in trying to stop the *demand* of certain products seem much more complex. As previously discussed, the drivers for demand for ‘luxury’ items are culturally ingrained and so change is reliant on manipulating the way people perceive products. With environmental issues not being an integral part of the school syllabus (5.5.27), let alone the more focused subject of wildlife trade, wildlife NGOs with the Forestry department have taken to targeting local communities to run additional education programmes, with the aim of relieving some of the direct pressures on the forest.⁸ This solution is limited by not tackling the root cause, and so cannot be expected to have long term impacts on the cultures surrounding demand for wildlife.

⁶ International level NGO, (Appendix 3.2.6)

⁷ WHO article: Motorcycle helmet wearing becomes law in Viet Nam ,http://www.who.int/violence_injury_prevention/road_traffic/countrywork/20_12_2007/en/index.html

⁸ Education and Awareness for gibbon rehabilitation in Cat Tien, <http://www.go-east.org/education-and-awareness.php>

8.3 Agriculture

The biggest threat to biodiversity is encroachment, converting areas of land that contain thousands of species into areas of land that may only have a dozen or so. (App 3.3.8) The most common trend in agriculture is intensive farming, for which one crop is grown as a commercial product with the aim to maximise profit through increasing yields by productivity and quantity. A local community member stated that “Most people prefer to plant one crop that will make good money each season.” (App.5.4.24) suggesting that the primary factors in the decision of which crops to plant are based on what will grow and what will sell.

The environmental problems that have arisen from this method of farming are well understood by those involved in agriculture. A local farmer explained the reasons for his choice of crop as follows.

(Over) the years the soil becomes poorer with farming. A lot of soil has washed away. We have to use more fertilizer, which has become uneconomical with those crops. Tangerines and cashew will grow on poorer soil (App.5.2.6)

This is supported by a biologist, who in addition refers to the effects of agriculture on water quality.

The ‘brownness’ of the Dong Nai river is “...is all agricultural runoff. Not only does the topsoil change the composition and clog up rivers but it means nutrients from the fields are washed away and production yields fall. That increases the use of chemical fertilisers, which is not only also damaging to the environment, but expensive for the farmers too.



Fig 17: The confluence of a clear stream running through then National Park, and the Muddy Dong Nai River (Accredited to R.Bateman)

As the productive value of land decreases, there is more threat to the boundaries of the forest as farmers seek more fertile soils. The opinions on what the solutions to this problem are varied and often conflictual. At the People’s Committee of Tan Phu, the Deputy Chair commented on focus for the agricultural industry.

The main thing we focus on is trying to improve productivity. The problem is that farmers are lazy, and only want a fast turnover, which is why their productivity is so low. So we help to introduce technologies such as fertilisers and machinery to help improve productivity (App1.3.6)

In this statement the local government is not seen as recognising environmental issues to be the problem, but social ones. However, the solutions suggested are technological which are neither directed towards finding environmentally based solutions, nor solving the alleged social problem he describes.

Such technological approaches aimed at increasing productivity often reinforce the very environmental problems described above. Waller has argued that each of the “ different technologies used to increase intensification is subject to a fundamental law of diminishing returns. Slowly the countless disadvantages resulting from each new input of machinery, fertilisers, pesticides, etc., will be to outweigh their initial advantages.”⁹ This law of diminishing returns appears to be being noticed in the observations of local farmer and biologist noted earlier.

There are also conflicts in opinion amongst environmental professionals about the best methods for reducing agricultural impacts on the environment and biodiversity. The biologist advocates better land management by using riparian zones¹⁰ to protect watersheds and retain soil, which would also help to mitigate the effects of flooding in the area. (3.3.15) The development organisation on the other hand describes an agroforestry project in Lam Dong Province for which several crops are planted together, with cocoa growing under lines of timber trees and supplemented with growing plants for essential oils. (3.4.4)

The aim of this project is to help improve the biodiversity of farmed land in strategic positions to help link ‘wildlife corridors’ between national parks, whilst enhancing the livelihood opportunities of local farmers. These opportunities are based on introducing high value cash crops that have not necessarily been planted in the area before,

⁹ Waller [1971] Prospects for British Agriculture, in Edward Goldsmith [ed.] Can Britan Survive?, Sphere, p.133

¹⁰ “Zones Riparian zones are ecosystems located along the banks of rivers, streams, creeks, or any other water networks”

Freitag. A (2008). "Riparian zone." In: *Encyclopedia of Earth*. Eds. Cleveland, C, Environmental Information Coalition, Washington, D.C.

but can provide alternatives to lower value crops like rice and corn. However, the biologist then argues that the productivity per hectare is considerably lower than intensive farming as well as more labour intensive, making it uneconomical for farmers. The economic value of these cash crops are relative to crops like tangerines and cashew, which are currently grown intensively. Further to this, the levels of biodiversity achieved in agroforestry may be more than intensive farming, but in comparison to the protected forest, insignificant.

These issues are also highlighted in the Development Organisation's account of the project. The labour intensive harvesting methods she says are 'too difficult for them to do'.

It's partly habit. They are used to clearing large patches of land and then growing their crops. Also it's poverty. Dealing with daily meals, trying to provide for the family. It's a time consuming process; time they don't have. The other thing is that they don't see the value in biodiversity, or even if they do, they can't see it having any short term benefit. (3.4.13)

The views of short term and long term benefits can be tied to the levels of poverty of different households and their vulnerabilities to shocks and pressures. The type of cultivation people practice is dependent on the level of investment of time and resources they can afford. Slow growing high value products like wood or agroforestry products are examples of where high levels of investment are needed, but the longer term economic benefits are greater than that of the intensive farming of crops. These are susceptible to flooding and disease, as well as national and international market prices. "A lot of people grow their own vegetables to eat" (App.5.6.26).

Subsistence to this degree can act as a fall back mechanism, to not have to rely on markets or productivity at the worst times. The harvesting of non timber forestry products can be a response to these pressures. A woman who supports three young children by herself describes her activities:

With one harvest I can make 6 million VND (300 USD). Usually I can get two harvests a year unless the flooding is very bad. When I'm not tending to the field I can go and collect bamboo shoots. I may be able to get 20-30 kilograms a day, so at 3000 VND (0.15 USD) I'm making between 60,000 and 90,000 VND (3-4.5 USD) a day. (App.5.1.16)

The level of poverty experienced in this situation clearly shows the exploitation of forestry products to be needs based, as a knock on effect to food insecurity. It is important to note that the nature of exploitation of forest products is distinctly gender based. Poaching as a high risk, but high profit activity seems to be predominantly male led, where as activities like picking bamboo shoots is low profit, but

has a certain amount of stability due to its abundance and ability to be harvested most of the year round. I imagine that as a mother of three young daughters the low risk option would be considered by her to be the best option.

8.4 Values of ecosystem services

Ecosystem services is a concept that tries to value the less tangible benefits resources can provide. When confronted with the economic value of resources it is much easier to value the cubic meterage of wood from a felled tree, or weight of cashew nuts that can be produced on a hectare of land. But when the effects of the degradation this causes can be felt by human populations, there becomes a value to the provisioning, regulating, supporting and cultural services that the forest can help provide.

Some of these effects at local level have been described previously, especially in terms agricultural run off into rivers and flooding. Flooding seems to be a particular area of concern. Describing his experiences of people drowning:

It happens every year or so. It's so dangerous. The flooding can happen so quickly, and most people can't swim. Even if you can, you have to be a really good swimmer even to stand a chance. Boats can get hit by debris and capsize very easily too. (App5.5.10)

Down stream, the level of pollution in the river is increased by the industrial zones of Bien Hoa causing serious implications for the provision of clean water to the densely populated Ho Chi Minh City. With so many actors involved in the polluting of the river, and with weak regulation in environmental standards (App.3.1.14) a policy level project the interviewed development organisation has been implementing restructures ecosystem services in real economic terms. Payments for ecosystem services has grown out of the difficulty people have in properly valuing the natural existence of ecosystems.

It's all done by economic values. We hired experts to calculate the value of the forest, using something complicated with a k coefficient. That formula shows the buyer's value. In this case the buyer is the water or tourism company and the seller is the owner of the forest. With that calculation they can see for example that the water company had to pay a lot of money for purifying the water in Dong Nai. If they protect their sources they can save more on this process. (App.3.4.23)

With the intended end result being that:

The companies pay for the protection of forests that are directly beneficial to them, and that money goes to the province, who transfers money to the forest owners. (App.3.4.21)

This has generally been regarded as a successful policy with primarily with the involvement of water and tourism companies. This does not however tackle the issues surrounding the big polluters who would make no gains from paying for ecosystem services in the short term. One potential problem that was noted by the environmental consultant was that:

There are a large number of industrial zones and state owned companies in the region, and the government is very sensitive about releasing and sharing information about the environmental health of those rivers. (They)...therefore received no cooperation from the Dong Nai Department of Natural Resources and Environment in releasing any of their water monitoring information.

This of course provides a practical hurdle in the long term feasibility of such projects, as they rely on the persuasive value of accurate data and accounting.

In a similar vain to increasing demands for responsibly sourced products (outlined in 8.2), company reputations concerning the environment are increasingly important to attracting business. There may be an opportunity in particular to target international companies for assistance with such projects as PES as it was noted by the Environmental Consultant that internationals “often come prepared with more stringent internal company social and environmental standards” because they are “...very aware of their image issues and have serious public relations awareness” (App3.1.17)

Many national and international companies operating in Vietnam have begun to try to improve their positive environmental image, recognising that to market themselves as being ‘green’ is increasingly sympathetic to potential customers. In Cat Tien the trend of corporate team building and tree planting activities marry two of the less tangible values of people as a resource, and ecosystem services. (fig 17)



Fig 18: Corporate tree planting

Further to this, a positive environmental reputation has become integral to the business model of the ‘ecolodge’. It relies on its image of being environmentally friendly, as a contribution to ecosystem services to attract visitors. However, there is a disconnect between what their clients perceive to be sustainable, and what the lodge owner has found to be a more useful construct for ‘sustainability’.

The concept is to use tourism to give a commercial value to the park. So we have built low impact, low density accommodation that targets a mid to high range international tourist market. But what we believe really makes this project beneficial to the park, is that it is our public-private partnership. Part of the return from visiting tourists goes directly to the conservation programme.

In effect, it is a small scale model of PES. The fact that it is ‘low impact’ partly refers to the decision for them to target a ‘mid to high range’ tourist market, for which the funds raised to aid conservation out weigh the impact of waste and noise and other pollution caused by the presence of the visitors.

However, there are other factors to the sustainability of tourism supporting the conservation of the park. The economic values of mass tourism and ecotourism can be calculated as a weigh up between large numbers of visitors for a small profit, or small numbers of visitors for a large profit. These two approaches are represented by the Toursim Offical’s plans for mass tourism based

on experiences with elephants (App.1.2) and the Lodge Owner's goals of attracting high-value, low-volume tourists (App.5.6.2 & 5.6.4).

This implications of the pressures of large volumes of visitors and its associated devaluation of the 'jungle experience' for some visitors (see App.4.1.16 & 4.4.16), but on the other hand the exclusionary nature of ecotourism can have cultural consequences. This could be positive and negative, as a perceived luxury can drive up popularity as a status symbol. This can be seen in the popularity of 'eco' labelling for many products, raising awareness at the same time as increasing its commercial value. On the other hand, the product becomes linked with a middle class culture, adding to increased social inequality, and importantly, greater recognition of the inequality.

Plans for tourism through Ta Lai are already making people conscious of the additional money and needs of middle class culture (App. 2.4 & 2.6) Tourism based around the 'ethnic culture' of the indigenous population has the threat of its erosion through commoditisation. (2.3.4) This contradicts the proposal that it is attempting to 'conserve' culture through the use of tourism. Further to this, the government act of 'settling' the indigenous population in the first place wiped out the environmental basis for that culture. (As described in Chapter 7.4)

It can be argued further that the management of mass tourism at the park is currently ineffective partly due being government run rather than commercially driven. It was suggested that "commercial projects need to have more of a focus on customer service, efficiency and meeting the demands of the markets", which means the fact that the park are 'subsidised' by the government make them less efficient in their tourism ventures (App.5.6.5). This lack of efficiency is in part explained by an absence of experience with external tourists and their expectations. As the Lodge Owner notes, the biggest problem is human capital. The expectation of standards for market exceeds the capacity of local staff (5.6.11-5.6.16)

It has been earlier suggested that there is a value to environmental education in the areas surrounding the national park for which concepts from environmental sustainability to animal welfare can be taught. However, the difficulties surrounding the training of local staff at the lodge are partly to do with a basic education and partly to do with the comparative work ethics of men and women (App. 5.6.17, 5.6.18). Considering the tone of resentment from the Deputy Chair of the People's Committee in his comment that "Tan Phu sees no income generation from the tourism industry that the park brings" (App. 1.3.16), the focus on a general education over an environmental education could have more impact in the local area.

This is supported by several community members, one saying "I would say, not even 5% get a good enough education for a good job" (App. 5.5.24) and school girl saying that she applied for a job at the park, but they didn't need anyone, followed by the fact that she would like to become a nurse, but will probably be a farmer like her parents. (2.2.10). The further comment that "most of (her friends) think of getting married...but men are just drunk all the time", (App. 2.2.12) also suggests that education for women and female empowerment should be a high priority, that ultimately would link back to ecosystem services.

Whereas flooding and pollution are very real threats to human wellbeing, the effect of wellbeing on 'Cultural, intellectual and spiritual inspiration' as described by the UN, is less obvious until it is lost. These can be linked to the perceived cultural value of the exotic, untamed wildlife that tourists come for, the indigenous 'culture' that is reflective of this wilderness, and the value of education and discovery of the unknown.

PART IV:
Synthesis

This thesis set out to better understand the conflicts surrounding the activities and management of conservation in Cat Tien National Park. Labelled a 'biodiversity hotspot' the commitment to its conservation appears to be within environmental circles and national policy makers alike. As described by the Millennium Ecosystems Assessment, the general strategies employed in conservation seem to be failing, and the reasons suggested were that there was not enough of a holistic approach to the implementation of these strategies.

Whereas the previous focus had been on activities surrounding the direct pressures to biodiversity, and state of biodiversity itself, the report recognised that not enough was being done to tackle the root causes or to better understand the potential human value of biodiversity through ecosystem services. This seemed to me to be true in Cat Tien National Park, and so I set about to study the underlying causes and provisions of ecosystem services in relation to this case.

The frameworks in which these findings were presented was not in the end as 'underlying causes' and 'ecosystem services' as I found that they were in fact inherently linked counter to what the original diagram had suggested with them at each end of a strategic process. (Fig 4, p 4) For example, the very activities that are trying to be prevented at Cat Tien, the extraction of forest products, could in fact be viewed as an Ecosystem Service as those activities are in fact beneficial to human kind in some way. Whether or not these activities (or prevention of these activities) are justified comes down to the questions of who benefits, and in what way do they benefit?

This construct was useful in focusing the study and providing an outline of the topics to be discussed with interviewees. However, as an analysis tool for the drivers of conflict I found their categorisation of spatial conflicts under the heading of *Territory* and the ideological conflicts under the heading of *Value* were more useful. The territorial construct, was one in which the activities of actors could be mapped by the spaces in which they live, work and think. These are both physical spaces and temporal spaces, where activities different people overlap and often conflict. The solutions to the conflicts I suggested, could be wider than the direct 'territories', for which the idea of a 'problemsheds' became a useful tool I which to understand them.

This then brought up a contradiction of its own. I found that the goals which different people or organisations had, was often value based, and that these values were linked to the relationship people have with the resources available to them now, that they had available to them in the past, and what they expect will be available to them in the future. The second section explored these ideas further through the relationship resources have to each other, and the differing values that are held by people in relation to them.

By understanding the differing territories and values in this way, my aim is to contribute to a wider understanding of conservation strategies in Cat Tien, and provide more options for effective structuring of priorities and environmental goals.

9. Findings

An assumption that I made at the beginning of this study was that there were those that worked in favour of environmental conservation, and those who worked against it. I discovered this was an oversimplified, flawed concept; 'conservation' was not so much a singular goal worked towards as the product of innumerable activities by the many regional actors, each with their own goals and values that make either a positive or negative contribution towards the conservation of biodiversity.

These goals are shaped either by short-term needs of the surrounding populations, or the ideologies underpinning policies and projects, and the values created through market demand.

Shifts in the government's ideological claims has caused territorial conflicts for Cat Tien. Although the national park was established pre-'renovation' (1986) many of the government activities since have been contradictory to preservation goals. The emphasis on growth in the move to a market economy has threatened the conservation of Cat Tien National Park.

The official boundaries have remained and the perceived value of having national parks to the government and international pressure groups continues, however the diminished on-ground commitment by government to conservation, with focus favouring agriculture and industry, means the will to develop effective policy, and the investment capital needed for building capacity for protection is lacking. Both the gaps in policy and the undervaluation of human resources engender complacent work ethics and corruption.

Encouragement of agricultural activity once attracted people from the highly populated north to the yet untapped natural resources of the south. The resettlement of indigenous populations to farmable lands also reflected the governments encouragement of 'productive' activity, as well as the goals of the international conservation NGOs involved at the time. What has not been fully appreciated is how these actions have impacted people's relationships to nature. The backgrounds of different groups are integral to the ways in which they value nature, giving either a sense of abundance or rarity, a need to tame it or work with it, or a sense of diminishment of a culture once shaped by natural surroundings.

Conservational projects appear for the large part to be implemented without a thorough understanding of the implications of these territorial struggles.

Compounding this, the goals of environmental actors often do not correlate with each other, and there is only occasional mention of inter-organisational partnership. The actors involved in the Cat Tien region establish their activities along different ideological lines for which a vision of a singular, unified conservational goal is too broad. This can be evidenced in the prioritisation of different activities and species, which is telling of the motivations behind these activities.

For the most part preservation and conservation protagonists can be divided into two ideological camps, the ‘anthropocentrists’ and the ‘ecocentrists’. “On the one hand the ‘anthropocentrists’... attempt to argue that the only rational way to speak about the value of wilderness is in terms of its value for human survival or well-being... On the other hand, the ‘ecocentrists’ commonly claim that the value of wilderness is intrinsic to the thing itself”¹(p.4).

It should be noted that it is argued in some quarters that these categorisations are simplistic in their obscuring of the fact that all environmental value claims are anthropocentric by their very nature; for a value to be claimed at all is an inherently human centred activity. Lovelock (2000) illustrates this effectively with the observation that even “...the very concept of pollution is anthropocentric”²

Anthropocentric environmentalists are clear in that the value of other species is important to the survival and health of humans. Conservationist anthropocentrism is inclusive of values such as a need to serve the interests of the ecological context in which humans live, a moral obligation to future generations and respect for finite natural capital.³

These anthropocentric values have manifest themselves in mainstream thought, embedded in Sustainability terminology such as ‘limits to growth’, ‘carrying capacity’, ‘steady state economy’ and emphasis on the inter-generational consequences of environmental issues. Sustainability has become the dominant expression of anthropocentric conservation claims (and arguably of all conservation claims), with its focus on management solutions to human-interest centred environmental predicaments. The UN’s ‘2010 Year of Biodiversity’ which has been given rise from their

¹ Cussen, K (2002) *Aesthetics and Environmental Argument in Essays in Philosophy*, vol 3, issue 1, article 14, p 4

² Lovelock, J (2000) *Ages of Gaia*, p. 110

³ Attfield, R (2003) *Environmental Ethics: An overview for the 21st Century*, Polity Press, p. 42

Millennium Development Goals clearly originate from this position, as do ideas about ecosystem services suggested by the Development Organisation and the Biologist.

Many of the activities of the conservationists and scientists practising in Cat Tien National Park appear to be ecocentric in orientation. The methods used differ depending on how they prioritise species, yet the idea that species are valued for their own sake stands. Such an analysis would however be flawed. If one considers that for a scientist, the real value of species lies in its value to science, the argument becomes one based on the assumption that tropical forests may provide some as yet unknown value to future (human) generations.

The ‘ecocentrism’ of the wildlife NGOs also originates from an anthropocentric impulse. Flagship species are supposed to be ‘representative’ of the struggle for survival of all species in that region, however their true value to the ecosystem is questionable. It is true that many flagship species can only survive in the richest of environments, however they tend to be specifically targeted by poachers, so their removal does not necessarily greatly affect the ‘richness’ of the forest. The value of flagship species is largely their ‘charisma’ and as such is actually anthropocentric.

Following this line of argument a better strategy for protection would be a focus on keystone species which, unlike the majority of flagship species, are categorised by their ability to support many other species, and therefore are more important to biodiversity.

Currently perceived cultural value gives certain species the ‘right’ to be protected. Therefore the value of other species are not seen as intrinsic, but are dependent on the values given to them by us. These vary according to singular species and their proposed values as part of an ecosystem, and therefore they can be seen as largely determined by their perceived ‘benefits’ to human kind.

10. Who benefits, what benefits?

Linking the ideas surrounding value back to the original UN statement in the Millennium Development Goals, in which the preservation of biodiversity is a “contribution to poverty alleviation and to the benefit of all life on earth”, it is clear to see that this is an impossible statement, and clarification is needed towards who it is that benefits. The values are that long-term vulnerabilities can be reduced, whether for this generation or the next.

Already it is clear that the benefits aren’t really directed towards ‘all life on earth’ for their intrinsic value, and when the apparent rights of other species are culturally determined, the question must turn to

where such culture is manifested. The cultural ‘benefits’ flow to the relatively wealthy. The cultural value of interesting species are to the most transient of stakeholders – international and urban tourists who will pay to see wildlife, of scientists and NGOs who get paid to study and protect wildlife and of even of ‘future generations’. For them, a ‘national park’ is public property, and in the term ‘international park’ may be more fitting. On the other hand, for those with arguably the best historical claims to the parkland, the protected area is essentially a fortress.

If conservation of species is culturally determined, then the power struggle has been between the cultures of the economically rich and the economically poor. Inevitably, the ‘poor’ indigenous populations of the Cat Tien region have lost out, and whilst it may have been unintentional, both resettlement plans and permanent agricultural policies have essentially broken much of their culture; making people who were once rich, poor.

As described by the International NGO, the exploitation of the National Park by the non-indigenous ‘Kinh’, who have a different connection with the land, results in a ‘tragedy of the commons’ scenario⁴. The logic being that although everyone knows continued unregulated exploitation of resources will lead to the eventual impoverishment of land, they continue to do so figuring their restraint would only lead to greater opportunity and benefit to their neighbour. Because of this, protection and regulation needs to be enforced.

In recognition that a ‘fortress’ mentality concerning the protection of the national park is insufficient, there has been a move to a more participatory approach in conservation. This has been the focus of projects in the Ta Lai area, trying to provide new opportunities for livelihoods, first with limited success in agricultural training, and now with promoting eco-tourism around the indigenous culture. This still does not take in to consideration where the benefits really lie as the opportunities provided are limited by either previously entirely culturally insensitive methods, or by the attempts to artificially revive a now disconnected culture by giving it an economic value through tourism.

Although this will survive as long as the elder generations sentimental to this culture can identify with it, what would be really beneficial according to the younger generations of both indigenous populations and non-indigenous populations, is better opportunities for work and choice. This is reflected in the trend of migration to the cities for better work opportunity, and the many comments directed towards hopes of parents for their children to have better

educations than themselves, and for youths wanting to go in to formal professions.

It would seem that those basic provisions that would benefit the poorer populations in the vicinity of the national park; education (and especially empowerment of women), healthcare, access to markets, would in turn benefit biodiversity.

11. Moving Forward

Thoughts, events and activities are dynamic and complex, and cannot be fully mapped. However, in terms of this study, further work could be done to explore more thoroughly trends and processes discussed here. The methods used suggest certain patterns that can be strengthened or disregarded in future work.

Rather than putting forward recommendations at this point, I will re-emphasise that the aim of this dissertation was to put ideas and strategies for conservation in Cat Tien into a framework to help prioritise goals and understand the impacts of activities. I don’t want to suggest that there is one way forward, and I expect that many of the values stakeholders have in this context will remain unchanged. However, I think that understanding the reasons for conflict is essential to recognising the potentials for the success of projects, programmes and policies, and can help inform the decisions made.

⁴ The concept was originally proposed by Garrett Hardin (1968) and published in the journal *Science* 13/12/1968, vol.162, no 3859, p 1243-1248

Appendices

Appendix 1: Interviews with people holding government positions

1.1 Deputy Director, Cat Tien National Park

The purpose was to attempt to gain a better understanding of the issues concerning the general operations and protection of Cat Tien National Park. I had arranged a meeting with him at his office in the park headquarters building. The interview was conducted around a wall map of Cat Tien and Cat Loc, as well as annotations on a sketch map of the same area. It was conducted in a combination of English and Vietnamese.

- 1.1.1 Referring to the wall map, the first question was posed on the importance of Cat Tien. The response was clearly a standard, automated one for him, as he quickly recited off lists of memorised statistics.
- 1.1.2 **Answer (A):** “Cat Tien National Park is an ecological hotspot, with 1610 known species of flora, 100 species of mammals, 348 species of birds and 40 species of reptiles. It is in the transitional zone between the Truong Son range and the Mekong Delta. It is divided into two areas; Cat Tien and Cat Loc. These are bordered by the Dong Nai River; on the East for Cat Tien and the West for Cat Loc. The park is on the intersection of four provinces, Dong Nai, Lam Dong, Binh Duong and Binh Phuoc, and is surrounded by a buffer zone.”
- 1.1.3 **Question (Q):** And what do you consider the main threats to the area?
- 1.1.4 **A:** There are three principal activities that are directly threatening to the national park. First there is encroachment which causes deforestation. Secondly, Cutting down of trees (author's note: logging), and thirdly trapping (of animals). Here (pointing to the map) is the buffer zone and the transition zone which should be protected too, but there is increasing development in it. We need to look after our skin, flesh and bone to live healthy happy lives. What life is left when there is only bone? There are more and more projects for hydropower in the region, and 30 companies have been granted permission to extract sand from the Dong Nai river with unlimited time frames. These changes alter the hydrology of the park, erode the banks and increases concentrations of pollutants. Also, raising domestic Cattle near the park increases the risk of transfer of diseases, as well as competition for food in the forest. Cutting the grass for cattle also increases the risk of forest fires.
- 1.1.5 **Q:** Are there particular times of the year when certain illegal activities happen in greater frequency?
- 1.1.6 **A:** Yes. In the dry season (Jan-Apr) a route along the eastern edge of Cat Loc is used for transporting rattan. There is also more encroachment because the forest is easier to burn. In the wet season, this is when the river is strong enough that people can log trees and float them downstream to the other side, where they can collect them without being caught. Bamboo is harvested at different times of the year for different things, whether it is for the shoots to eat or using for construction and to make incense sticks.
- 1.1.7 **Q:** So what happens when people get caught?
- 1.1.8 **A:** Well they are fined and the products confiscated, or maybe they are sent to prison. It depends who catches them and what for. But really, very few people get caught, it is insignificant. Poachers go out at night to outsmart the rangers, and outside the park the police rarely bring anyone in. Most of the produce taken from the forest is used in the country, so they don't have to get through customs. There is a hotline for people to tell of offences and some NGOs are doing education. I don't know if it works.
- 1.1.9 **Q:** So who is responsible for these illegal activities and who uses the products? I mean young, old, men, women...
- 1.1.10 **A:** Encroachment is from households of surrounding population, and the wood that is felled is sold to anyone, for furniture or building. Wild meats (from poaching) tend to be for men, maybe in their 40's and 50's, as they like to buy this when they go out with their friends to drink.

1.1.11 **Q:** What about medicines?

1.1.12 **A:** Less people use it (the park) for medicines. I think there are some herbs the minorities like to use, but usually the rangers let them off if they go to the forest for that.

1.1.13 **Q:** Is there a difference in the activities at different points around the park?

1.1.14 **A:** Yes. This is partly dependent on the backgrounds of the people living in different areas. Many people are involved in poaching and logging. In one year the rangers found about 20,000 traps. That's 5000 traps and snares in one month. Of course there must be more.

1.1.15 The Villages of Nam Cat Tien, Nui Tuong, Dac Lua and Phu An are all communities of ex soldiers, from the 600th division. They settled from the North after the war. Many have government jobs or some sort of land-based labour or agriculture. The Ta Lai Village (in the south of Cat Tien) has Chau Ma and X'Tieng (local ethnic minorities) people living there. They were settled there by the government in the 80s, and we are trying to do development projects with them to better integrate them, and preserve the culture. There are other minority groups in the area. The Tay minority from the northern highlands moved down in 1990-1991 and are now settled in the Northern region of Cat Tien. There are more than 100 households there within the national park, and the decision was made that they would not be moved as long as they help to protect the forest. The same decision was made with other Chau Ma and X'Tieng communities in the North Western area of Cat Loc. The activities are different partly to do with their traditions, and partly their locations. People in Ta Lai are relatively wealthier as they do more business with the Kinh (Ethnic Vietnamese) community. Those within the park and at the northern side of the park are more cut off and are poorer. Well this is not the only reason.

1.1.16 Government policies are not harmonised and the effect is to make the minorities poorer. There are different laws for the Vietnamese majority and minority. All minorities receive subsidies for children to go to school and some households have a deal with the park in which they get 70-80 million VND (3600-4100 USD) a year to protect areas of forest. They are allowed to farm areas of converted forest land as compensation for not being able to subsist on the forest any more. But this doesn't work, because the Kinh buy the land illegally from the minorities which encourages further encroachment. And who is to say who is considered minority and majority anymore. So many people now intermarry. Families like K'Mot's should be rich. He has four wives, whom he gives each 6 hectares to farm, so a total of 20 hectares given by the government. But because he doesn't manage it well they are poor. The minorities don't know how to farm. They are hungry so they have to sell the cashews too early for cheaper prices. There is a culture of drinking and so the subsidies from the government go into his pocket, and they continue to go to the forest to find resources. They are also paid by the Kinh people to poach, as they know the forest better. But really everyone does it.

1.1.17 **Q:** Why is there such a disconnect between the area you have showed to be designated buffer zone and the increasing development in the area?

1.1.18 **A:** There are many conflicting policies in Vietnamese law:

1.1.19 - The law is vague on what constitutes the buffer zone. There is pressure from growing populations to house people, so villages grow and encroach on the forest.
- When people move from building with bamboo to brick, and roads are built for motorbikes instead of walking it becomes harder for conservation. Roads cut the path of fauna. Wherever there is electricity, people will build.
- Similarly there is a high demand to grow the economy for the export of cashew and cocoa, so the forest is cleared further for agriculture.
- There is currently not enough electricity to power towns and cities, so dams are being built, destroying the ecosystems above and below them.
- The law states that the 'Kiem Lam' officers may only prosecute poachers and loggers within the jurisdiction of the National Park. If they see them on the road driving away, they can only stand and watch. People cut down the trees and float them down river. They can then pick up the logs on the other bank, outside the perimeter of the National Park.
- When people encroach on the forest and grow tree crops, the rangers can remove the crops if there has been less than one year's growth. So people hide farmed areas in the forest or plant bamboo around it, so

that in two years we cannot remove the crops and if we want the land back we have to buy it back.
-Different ministers see different priorities for the land, and so in the end we have little power to protect these zones. When the highest people in government do not see forest protection as a priority, what can we do? All decisions are made in Hanoi and the government doesn't seem to see value in the future.

- 1.1.20 **Q:** So looking at this map, where are the most difficult areas to protect? Where are the most densely populated areas, and where does most of the activity happen?
- 1.1.21 **A:** This area between Cat Tien and Cat Loc has always been a focus area for us, to try and join the two forests, but it is too heavily populated. I don't think it is really feasible to do that anymore. As I said, there's encroachment on all sides. This area of Tay Cat Tien up here near Binh Phuoc is less densely populated, there's just some farmland up there, and further south towards the Tri An Reservoir it becomes more densely populated again.
- 1.1.22 **Q:** But this is (pointing to map) the Nature reserve isn't it? Are there people living there?
- 1.1.23 **A:** Yes, it's mixed secondary bamboo forest and farmed land mainly. There's some hardwood trees, but the forest is generally not in the same condition as Cat Tien.
- 1.1.24 **Q:** Seeing as they're adjoining, would it not be an opportunity to combine the National Park and Nature Reserve together, to better protect a larger area?
- 1.1.25 **A:** Yes, it's a good longer term strategy, but at the moment there is a danger that it would devalue the National Park. I would be concerned that it would be even harder to manage such a large area, and the level of encroachment at Vinh Cuu is worse than at Cat Tien, so that could put the primary forest at Cat Tien at greater risk. But yes, under the condition that Vinh Cuu were able to be better managed, it would be the most viable long term strategy.

1.2 Director of Tourism, Vinh Cuu Nature Reserve

This interview was the result of a brief chance encounter with the Director of Tourism for neighbouring Vinh Cuu Nature Reserve, when he visited Cat Tien National Park. We were introduced during his tour of the facilities and projects at the Park. The interview was conducted in Vietnamese.

- 1.2.1 **Q:** What are you hoping to achieve on your visit today?
- 1.2.2 **A:** I'm really interested in learning, from existing examples, the best ways to develop and promote tourism at Vinh Cuu Nature Reserve. We are in the relatively early stages of tourism development compared to Cat Tien, so it is interesting to see how it is working here.
- 1.2.3 **Q:** Ah yes, Vinh Cuu adjoins Cat Tien to the south doesn't it, I'm sure there must be potential to develop tours that incorporate both Cat Tien and Vinh Cuu. The elephant population is down your way isn't it?
- 1.2.4 **A:** Well exactly, yes. There is a lot of potential to base tourism around seeing elephants, but we need to act quickly. Nine elephants were killed earlier this year, and the population is getting very small.
- 1.2.5 **Q:** Yes, I heard. What was the reason for their death?
- 1.2.6 **A:** The farmers feel threatened by them, as they can destroy their cashew plantations, and can be aggressive. The elephants need a certain amount of roaming land, and the pressures on their habitat are pushing them to areas more populated by humans. They were found with their tails cut off as well, which suggests there were other economic gains to be made. Elephant tail hairs sell well, as people use them as wedding bands. It symbolises a long and monogamous relationship, just like that of an elephant's.

- 1.2.7 **Q:** How much do they sell for?
- 1.2.8 **A:** I think it's about 300,000VND (£10) each. And each tail has a lot of hairs!
- 1.2.9 **Q:** How important is your relationship with Cat Tien National Park in developing a tourism strategy?
- 1.2.10 **A:** Cat Tien National Park is an important partner for us. The director of Vinh Cuu is also the Ex-director for Cat Tien, so we have a very good relationship. The joining of the two areas is very important for the conservation of species like the elephant, and there is a danger that they may become split by further development.
- 1.2.11 **Q:** Might that be a management issue? What if the National Park and Nature Reserve were territorially joined, under one management system?
- 1.2.12 **A:** That would be the best situation for comprehensive protection. It would harmonise the strategy and make it easier I think. And (for what is now Vinh Cuu) to be controlled at provincial level would mean the decisions made would be in the best interests of the region, rather than being so dependent on the pressures of country level decision making.

1.3 Tan Phu People's Committee

I met with a representative from the Department of Commerce and also the deputy chair of the Tan Phu People's Committee at their office in the District of Tan Phu, Dong Nai Province. My aim was to understand the key strategies and drivers at district level perspective and to see how these might affect Cat Tien. The interview was conducted in Vietnamese.

- 1.3.1 **Q:** What are the biggest industries in Tan Phu?
- 1.3.2 **A:** The majority of industry is currently linked to agriculture. This includes a large production of coffee, cocoa and tangerines amongst others. We're also promoting construction, infrastructure, market development and technology based industries.
- 1.3.3 **Q:** So is the agricultural produce mainly for export?
- 1.3.4 **A:** Yes but it is also for use in the country, mainly in the colder northern provinces like Thanh Hoa, but primarily for the Chinese market. The fruit season is generally the busiest.
- 1.3.5 **Q:** What sort of support are you involved in for the agriculture and farming sector?
- 1.3.6 **A:** The main thing we focus on is trying to improve productivity. The problem is that farmers are lazy, and only want a fast turnover, which is why their productivity is low. So we help to introduce technologies such as fertilisers and machinery to help improve productivity.
- 1.3.7 **Q:** I noticed the maps on many of your walls are of areas within Tan Phu town. Is that a development project that is being planned?
- 1.3.8 **A:** Yes, that is the biggest investment plan for the district at the moment. We are putting in the infrastructure to attract manufacturing; so suitable access, water facilities, electricity and so on.
- 1.3.9 **Q:** What sort of manufacturing do you want to attract?
- 1.3.10 **A:** We don't know yet. Whoever is the most suitable investor. Probably food production and textiles. We're trying to attract more business here.
- 1.3.11 **Q:** Is attracting investors a challenge for Tan Phu?

- 1.3.12 **A:** Yes, the main difficulty is that it is further out than a lot of the existing industrial zones, but I think they will extend out here in future, and we have the advantage of being on the Highway. We're also trying to keep people in the district, who would otherwise go to Bien Hoa or Saigon for work.
- 1.3.13 **Q:** What about towards Cat Tien? In what ways do you see the more rural areas developing?
- 1.3.14 **A:** You're asking about the project in Ta Lai aren't you? That's to do with getting ethnic minorities to see the advantages of settling in one place, and moving away from shifting cultivation techniques. We're also looking at promoting tourism in the village, as this could be a way for people to benefit from the national park.
- 1.3.15 **Q:** Well I wasn't specifically asking about that project, but I have talked to someone from the tourism department about it. Would you say people don't benefit from the park now?
- 1.3.16 **A:** This district would be 77,000 hectares, but the National Park already takes up 39,000 hectares of that. As it is protected of course that means there is no potential for development, but further to that, although it is part of the district, Tan Phu sees no income generation from the tourism industry that the park brings. The project in Ta Lai may change this in a small way.
- 1.3.17 **Q:** So as a district, you play no part in the management of Cat Tien National Park?
- 1.3.18 **A:** What they do is their business. We are responsible only up to the border of the park.

Department of Tourism Official

As mentioned in the above interview, the other government representative interviewed was from the Department of Tourism. The record of this interview is included in the interviews from Ta Lai village (Appendix 2).

1.4 National Park Rangers

This series of interviews was done on different days and began with a chance encounter. Crossing the river one lunch time, there was a group of policemen and rangers all sitting having a coffee. I asked one of the rangers what was going on. In all, 2 rangers were interviewed (R₁ and R₂). All of the interviews were conducted in Vietnamese.

- 1.4.1 R1: Some wild animals have just been recaptured.
- 1.4.2 VQ: What are they?
- 1.4.3 R1: It's a pangolin, and a monitor lizard. They were confiscated from a restaurant in Tan Phu (the closest town to the Park headquarters).
- 1.4.4 Q: So the police caught them and brought them back?
- 1.4.5 R1: Yes.
- 1.4.6 Q: How often does that happen?
- 1.4.7 R1: Oh occasionally,. If it's nearby.
- 1.4.8 Q: What's going to happen now?
- 1.4.9 R1: They'll just get checked over and released back. The cage will be taken back across the river in a minute.
- 1.4.10 Q: Are you all going back over there too.
- 1.4.11 R1: No. We're going to finish for the day now. Off for a drink.
- From this brief chat, I secured a longer interview with one of the rangers.
- 1.4.12 Q: How long have you been a ranger?
- 1.4.13 R2: About 4 or 5 years.
- 1.4.14 Q: So how does it work, I mean what is the system?
- 1.4.15 R2: There are several station at points around the border of the park, and we are based in groups of maybe 6 people at each one. The job is to go out and look for poachers, and pick up traps within your designated area.
- 1.4.16 Q: Is that dangerous?
- 1.4.17 R2: Yes, very. The whole group goes together, so that if we come across a poacher we have enough manpower to catch him. They often carry guns and can be aggressive, so yes it is dangerous. Not to mention the number of deadly snakes, scorpions and spiders there are.
- 1.4.18 Q: They must pay you well then?.
- 1.4.19 R2: Not at all. It's terrible pay.
- 1.4.20 Q: So then why do you do it?
- 1.4.21 R2: For the love of the job. You have to believe in it.

- 1.4.22 Q: Do you think everyone you work with thinks that way who you work with?
- 1.4.23 R2: I suppose so yes.
- 1.4.24 Q: But do you think there is some corruption amongst the rangers?
- 1.4.25 R2: Yes there is that too. Some people will let poachers off if they give them money.
- 1.4.26 Q: What would you say is the percentage of people who do that?
- 1.4.27 R2: Quite a lot. Maybe 70-80%
- 1.4.28 Q: That is quite a lot! So do you think this is to supplement the meagre pay then? Would people do it if they were paid more?
- 1.4.29 R2: Maybe. I don't know... maybe not. People always need more money. It's enough for me, so I suppose it must be enough for others, otherwise they wouldn't be able to take the job. It's more about having extra money, to be able to invite friends to have a drink. But of course it is also to be able to buy a bike or build a house. Big things, that there is no way they could be bought just from a salary.
- 1.4.30 Q: So when you go in to the forest you said that the six of you all go together. But the sections you have to cover is areso huge.. How can you patrol it all?
- 1.4.31 R2: You can't really. Each time we go we take a different route, mainly finding traps. It's often the same people from the nearby villages that we find, if anyone at all. There's not much point in handing them over to the provincial police. They will just get fined and then released. I think the system isn't connected enough with the province when that happens.
- 1.4.32 It's the same for recapturing animals, like the other day. The police come by, maybe once a year, when they raid a restaurant or something like that. They'll fine people themselves too, if they see a new bamboo or wooden structure for example, and the owner can't explain where the bamboo came from. It was probably the forest. But again, that is rare.
- 1.4.33 Q: Why is it so rare the police work on these issues?
- 1.4.34 R2: They just don't rate it as important I suppose.
- 1.4.35 Q: Can rangers question people outside the park? I mean if they know who are the repeat offenders, surely it would be more effective if rangers tackled the problem?
- 1.4.36 R2: Well, there are some bordering villages that rangers will work in as well, Ta Lai for example. Have you seen the tower there? But in general, no. It is down to the police.
- 1.4.37 Q: So what is the going rate for different wild animals, do you know?
- 1.4.38 R2: Not off the top of my head, but I can find out for you. I know someone who owns a restaurant.

Appendix 2: Ta Lai Village Workshop

This series of interviews was conducted over the course of a two day workshop for an eco-tourism project run by an international NGO working in Cat Tien, and is documented as a series of observations and discussions held with different people at the meetings.

Day 1: A short drive south from the village of Cat Tien, along the bank of the Dong Nai River is a rusty pedestrian suspension bridge that marks the only public entrance-way to Ta Lai village. A government propaganda poster that stands opposite a soviet style war memorial, reads 'For Man and Wife, one or two children is best'. I cross the bridge to the purpose built community centre, where the meeting is already underway. There must be about forty people there, about ten government officials either in uniform or in suits, five people working for the NGO, a camera crew and the rest from the local community. Many were distinguishable as ethnic Chau Ma or X'Tieng from defining facial features, and sat in groups of young and old, men and women.

The meeting was one in a long line of meetings. The NGO had been working on this project for over a year and in the Cat Tien region for more than a decade. The meeting started with a representative of the district People's Committee Department of Tourism and Culture introducing the project programme.

The programme is divided into six activities, but will be grouped as four due to the interconnectedness of some of them. They are traditional music and dancing, cloth and rattan weaving, home stay services, and forest guides. These groups have been formed previously, so we will divide up and brainstorm what these activities will require.

2.1 Tan Phu People's Committee (Dept. Tourism)

Later on I spoke directly to the Government Official from the Department of Tourism. The Interview was conducted in Vietnamese.

- 2.1.1 **Q:** What would you say is the main reason for this project?
- 2.1.2 **A:** We want to use this opportunity to collaborate with (note: the international NGO) to boost tourism in the district. The ethnic minorities are very poor and have no farming skills, but they have the advantage of their culture and proximity to the national park and these could be used to bring in money. We are looking for potential areas to develop the culture and tourism industry.
- 2.1.3 **Q:** What factors will affect the success of this project?
- 2.1.4 **A:** I think it will primarily rely on being able to attract enough tourists. There needs to be good activities that are promoted well. This could be achieved through marketing and combining it with tours to the national park. Also, it will be dependent upon the contribution of the villagers; if they are well presented and professional.
- 2.1.5 **Q:** How will the people participating in this benefit?
- 2.1.6 **A:** They will earn a percentage of the profits for the activities they are involved in. This is part of what is being talked about today. Also it means Vietnamese minority cultures are preserved, and we are helping them to modernise away from shifting cultivation practices.
- 2.1.7 **Q:** Do you think there is a long way to go for this to be achieved?
- 2.1.8 **A:** I think it is quite straight forward. The activities just need to be explained well, and we need to organise people in terms of their rolls. The villagers have not been exposed to a lot of tourists, so they need to know what the expectations of the visitors will be.

As the groups formed and went to brainstorm in their allocated rooms, I decided to sit in on the home-stay group to begin with. This group was lead by a consultant for the NGO who worked on ecotourism projects in and around Hanoi. The group was entirely made up of middle aged men who had agreed to open their homes to visitors to stay overnight in the village.

The discussion revolved around the question of 'what is home-stay?' and 'what do we need to do to meet the expectations of visitors?'

Brainstormed answers included: 'a place to stay over', 'giving service to people', 'to make money from them', 'providing people with food and a bed', and for the second question, 'cleanliness and hygiene', 'privacy', 'a toilet and somewhere to wash', 'entertainment'.

Walking around, it became clear that other groups weren't engaged in such discussions. Most of the others were dominated by the people leading the groups (park and province authorities) explaining what cut of the profits people would get, and how much they could expect dependent on the number of tourists coming through.

2.2 School Girl

During the break I spoke to a 16 year old girl outside the community hall. She wore new, modern clothes and spoke fluent Vietnamese.

2.2.1 **Q:** What brings you here today?

2.2.2 **A:** I've just come to watch. I've never been to any of these meetings before, so I thought I'd come and see what it is about.

2.2.3 **Q:** Do you think it's interesting?

2.2.4 **A:** Sort of. It doesn't really affect me. I'm on holidays from school and I thought maybe it would be something I can do when I finish. But I don't think it will work for me.

2.2.5 **Q:** Why is that?

2.2.6 **A:** For all the activities, you have to have money to start it. I thought I might do the dancing, but you have to pay for the clothes yourself, and the weaving ladies sell them for 300,000 VND (£10) per set.

2.2.7 **Q:** Where do you go to school?

2.2.8 **A:** I'm not sure. I can get a motorbike taxi there for 24,000VND (80p) and it takes more than 3 hours. I come home once a month or so.

2.2.9 **Q:** What do you want to do when you finish school?

2.2.10 **A:** I would have liked to be a doctor, but my family can't afford the fees. Nursing is too expensive too. I suppose I will be a farmer like my parents, as I work in the field when I'm not at school anyway. I asked for a job at the National Park, but they said they didn't need anyone.

2.2.11 **Q:** What about your friends around here? What do they want to do?

2.2.12 **A:** Not much really. Most of them think of getting married – preferably to someone richer! But whatever I do, I don't want to get married. Men are just drunk all the time!

2.2.13 **Q:** Do people go to Bien Hoa or Saigon?

2.2.14 **A:** Some. You can get better paid jobs there. Some of the boys go to work at construction sites. If I

could be a nurse I would go to Bien Hoa. They have a big hospital there.

2.2.15 **Q:** Would you not feel sad about leaving your family behind?

2.2.16 **A:** Not really. It would be the same as now. I would still be able to come home and I would need to bring money home for my parents. That is if I get the opportunity to go.

2.2.17 **Q:** Do you identify with the traditions of your culture?

2.2.18 **A:** Um, well I don't know. My mother is Chau Ma and my father is X'Tieng, so I don't stand out too much at school from any strong features. There are some traditions you can see in that exhibition over there. I don't pay much attention to it. You will have to ask the older people.

2.3 Ecotourism Consultant

After a free lunchtime meal, the second part of the meeting was a series of presentations in which the leaders of the groups reported back on what was discussed. This was followed by a presentation from the consultant on ecotourism in Sapa (A town in the northern Vietnamese highlands, with a large ethnic minority population, and a mass tourism destination). After the meeting I was able to question the consultant on ecotourism and the purpose of the presentation. The interview was conducted in English.

2.3.1 **Q:** When you were preparing this presentation, what were the key things you wanted to get across to people here?

2.3.2 **A:** Well in a lot of ways the scenario here is very different, but these people have never had a chance to see places like Sapa where tourism has developed. I wanted to show them how it can be done, but also what some of the negative aspects are too, so maybe we can avoid some of them.

2.3.3 **Q:** Do you think that Ta Lai could become as popular as Sapa?

2.3.4 **A:** Probably not yet. It needs to be developed a lot more, to have more charm and to develop tours. It is quite close to Ho Chi Minh City, so there is a potential market there, but the main thing is that the people here don't yet know how to make tourism work for them. We need to show them how it is done elsewhere. People like to see other cultures, and tourism here would include that.

2.3.5 **Q:** Surely there can be some negative implications when 'culture' is commoditised in that way?

2.3.6 **A:** Sure. And that is why I was explaining about the people in Sapa setting up their own list of rules, to try and make the system fair, and respectful. This way, at the tourist office everyone sees them, and also it gives the host people power over how it works. But it is a big factor. Communities can change. You have to be careful with things like children not going to school because they can make money selling drinks to tourists and that kind of thing.

2.3.7 **Q:** What did you think the response was like?

2.3.8 **A:** It's difficult to know. They were very quiet weren't they? I don't know how sincere or honest the responses were; no one really wanted to say anything. Maybe they were just shy. Or tired.

2.4 Middle Aged Man

Following the meeting, one of the men in the home-stay group invited me back to his house as he was keen to show me his plans on how he would ‘improve’ his home to accommodate visitors. His traditional ethnic Vietnamese or ‘Kinh’ style wooden house stood in a row of concrete ones. Inside, his walls were lined with official looking certificates and a large picture of Ho Chi Minh. The interview was conducted in Vietnamese.

- 2.4.1 **Q:** Wow, that is a lot of certificates. What were they for?
- 2.4.2 **A:** They are from the government for services to the country. Mainly they are for agriculture, and also some are for when I was working as a park ranger, but I’m retired now.
- 2.4.3 **Q:** What do you farm?
- 2.4.4 **A:** I have four and a half hectares of rice, six hectares of cashew and I used to have one hectare of tangerines, but I’ve discontinued that. I also have a few pigs in the back there.
- 2.4.5 **Q:** Is that profitable?
- 2.4.6 **A:** The cashew more than the rice. I sell rice for 4,500 VND/kg compared to 14,500 VND/kg of cashew. The pigs can be too if they don’t get diseased. There’s currently a strain of ‘Blue Ear disease’ going around. No one is eating pork at the moment.
- 2.4.7 **Q:** Agriculture must be a very different way of life to before. How have things changed?
- 2.4.8 **A:** Yes. We’re not allowed to hunt or collect plants from the forest any more. In ‘83 the government moved us down into the southern part of the park where we were still having our old way of life, but then when we were moved to this village, we were given houses and some land to farm and not allowed to go in to the forest any more.
- 2.4.9 **Q:** Do you find that sad?
- 2.4.10 **A:** It was a long time ago. It is normal now.
- 2.4.11 **Q:** Do some people still go to the forest sometimes?
- 2.5.12 **A:** No. Well some. People miss eating the ‘la nhip’ and ‘doc may’ leaves which we get from the forest. Sometimes people go and get some. The rangers usually turn a blind eye.
- 2.5.13 **Q:** What about for poaching?
- 2.5.14 **A:** It’s illegal. I suppose people still do it, to sell to the ‘Kinh’. They pay a high price for wild meat. But there’s less and less in the forest now, not like 15 years ago. The ‘Kinh’ pay the minorities as we know the forest better than anyone. In the wars we still survived. Even from the French time. There is a French military air strip on that ridge. We’ve not been isolated. There have always been people around. But the rangers have a permanent station here. That tower overlooking the town there.
- 2.4.15 **Q:** So you trade a lot with the ‘Kinh’?
- 2.4.16 **A:** Now we do yes. People come to buy our produce. Our children go to school a long way away in government schools, so they have more contact with the “Kinh” community.
- 2.4.17 **Q:** Do you have children?
- 2.4.18 **A:** Yes. Two grown up boys and a young one. The two older ones both work in manufacturing.

- 2.4.19 **Q:** I heard children from minorities get subsidised to go to school. Is this the case?
- 2.4.20 **A:** Yes, they go for free in primary school, and half price during secondary school.
- 2.4.21 **Q:** So how do you think this NGO programme is going to work for you?
- 2.4.22 **A:** It seems like it will be good, if I can make the right changes to my house. I'm going to turn the front room into a bedroom for the guests, and I need to make a bathroom out the back. We can also move to our other house next door if we need more space. Currently my mother lives there, but there's another room.
- 2.4.23 **Q:** What amenities do you currently have?
- 2.4.24 **A:** We have a pit at the bottom of the land and a water butt that we fill from the well. This we use for the kitchen. We usually share next door's tap to wash ourselves and our clothes.
- 2.4.25 **Q:** Are the changes you are thinking of going to cost you a lot?
- 2.4.26 **A:** I have no idea; I've never fitted a bathroom before. But hopefully the profit from the guests will help.
- Q:** What happens if it doesn't work, if the guests don't come?
- 2.4.27 **A:** That will be a risk. We've been told we can have a loan to pay for the upgrade. I will have to pay it back somehow. But I was planning on having a bathroom anyway. That was my next extension plan.

Day 2: Following the meeting that Sunday, I returned to Ta Lai with a lady from the NGO working on the project. We went to visit some of the families to see what some of their needs and concerns were. At the first house that we went to, a husband and wife were at home with their two daughters and granddaughter. Sitting in the front room, I was first introduced to the Man.

2.5 Ta Lai Family- Man

- 2.5.1 **Q:** This is a beautiful wooden house you have. Did you build it yourself?
- 2.5.2 **A:** Yes. I moved from my government house a few doors down to this bigger piece of land. There's a bedroom through there and a toilet. Out the back here is the kitchen and a grain store, and I want to build a shower here by the well.

As we walked around to look at the well and the kitchen I stayed behind to talk to his wife (A₁) and daughters. His wife didn't speak Vietnamese (only their own language) so one (there were two present) of her daughters (A₂) translated in broken Vietnamese.

2.6 Ta Lai Family- Women

- 2.6.1 **Q:** What are you doing?
- 2.6.2 **A₁:** I'm weaving a cloth, which will become a loincloth.
- 2.6.3 **Q:** Ah is that your traditional dress then?
- 2.6.4 **A₁:** Yes, the style is. Though I'm just using thread from the 'Kinh' Market, so the colours are random. Not traditional.

- 2.6.5 Q: Ok. So would you have made the threads before too?
- 2.6.6 A₁: Yes, we would have done, and then dyed them. I think these threads are from China.
- 2.6.7 Q: So who is it for? Your Husband?
- 2.6.8 A₁: No, it's to sell. I should get 300,000 VND (£10) for it.
- 2.6.9 Q: And how long will it take you to make?
- 2.6.10 A₁: About 2 weeks
- 2.6.11 Q: That's a beautiful baby. Who's is it?
- 2.6.12 A₂: He's mine. He's 8 months.
- 2.6.13 Q: Are you married? How old are you?
- 2.6.14 A₂: Yes, I'm 17. We live around the corner. I just come here to my mother's most days.
- 2.6.15 Q: And this is your sister?
- 2.6.16 A₂: Yes my younger sister.
- 2.6.17 Q: Is it just the two of you?
- 2.6.18 A₂: No there are five of us all together. The others are younger. Four girls and a boy.
- 2.6.19 Q: What do you both do?
- 2.6.20 A₂: Nothing really. She just finished school. We look after the baby.
- 2.6.21 Q: When did you finish school?
- 2.6.22 A₂: A couple of years ago, and then I got married.
- 2.6.23 Q: What does your husband do?
- 2.6.24 A₂: He does odd jobs. Labouring, that kind of thing.
- 2.6.25 Q: What do you think about this NGO programme?
- 2.6.26 A₁: Umm... I'm not sure. I Just hope our home can live up to their expectations.
- 2.6.27 Q: What do you mean?
- 2.6.28 A₁: Well, it's so basic. Maybe they won't be comfortable.
- 2.6.29 Q: But how do you feel about having visitors in your home?
- 2.6.30 A₁: Well, It should bring in more money, which would help. We would have to change our living arrangements, and I don't know how often we would have people here.
- 2.6.31 Q: What about food for the visitors. Would you be expected to cook?
- 2.6.32 A₁: Yes, they would eat here as well.
- 2.6.33 Q: What would you cook them?
- 2.6.34 A₁: Vietnamese food, like chicken curry with rice.
- 2.6.35 Q: Would you not cook them your traditional food?
- 2.6.36 A₁: It may be too strange for them; they might not like it. And some of the ingredients we would have to get from the forest.

2.5 (Cont.) Ta Lai Family- Man

Returning to the front room, I rejoined the conversation with the man of the house.

- 2.5.3 **Q:** You have a beautiful family. It must be fantastic to be a grandfather already.
- 2.5.4 **A:** Thank you, yes.
- 2.5.5 **Q:** How would you manage your visitors between you and your wife?
- 2.5.6 **A:** Well, I would entertain them and make sure they are comfortable. My wife will cook. Just the way we would entertain any visitor.
- 2.5.7 **Q:** Would it affect your daily activities do you think? Will you have the time?
- 2.5.8 **A:** I don't think so. I don't think it would be too much trouble. The land here is not very fertile, so this would be a better income.
- 2.5.9 **Q:** What's the problem with it?
- 2.5.10 **A:** It's too sandy. Nothing will grow properly

2.7 NGO - Local Level

After leaving, I asked the NGO some questions about the project and her work. She is a young Vietnamese lady in her late twenties, and has been running the project on the ground. The interview was conducted in Vietnamese.

- 2.7.1 **Q:** How long have you been working on this project.
- 2.7.2 **A:** Over a year now. There's one more year until the deadline.
- 2.7.3 **Q:** That's not too long. How do you feel about the progress?
- 2.7.4 **A:** It is too slow. It's taken a year just to get paperwork and agreements in place to do the project, and so we are only starting now, and there's no time left.
- 2.7.5 **Q:** How did you come up with the project?
- 2.7.6 **A:** Someone designed it from above. I am trying to implement it now.
- 2.7.7 **Q:** Was it designed from the country office?
- 2.7.8 **A:** No, from the regional office I think. We did a familiarisation day at the beginning where they (those from the regional office) came to see the village.
- 2.7.9 **Q:** Have you had any problems implementing the project?
- 2.7.10 **A:** Many! There are a lot of contradictions. Like for example, to make bamboo and rattan handicrafts to sell to tourists. Where does the material come from? They can't get it from the forest where it would have traditionally come from.
- 2.7.11 **Q:** Can you not grow it?
- 2.7.12 **A:** I know it is possible to grow bamboo, but not rattan. Anyway, we can't do it. It's outside the scope

of the project.

2.7.13 **Q:** Why can't you change the scope?

2.7.14 **A:** That's the way it works. The donor has provided money for the proposal written last year, so we must stick to it.

2.7.15 **Q:** Even if that means there are problems with making it successful? And what happens if it doesn't work? I am concerned that the people you are trying to help out are the ones who are in danger of losing out the most.

2.7.16 **A:** Yes it is a big concern; it has to work somehow.

2.7.17 **Q:** What about the other activities? This home-stay activity for example. What is the plan with this?

2.7.18 **A:** We are making the participant's home more suitable for western visitors to stay. Mainly it is about putting in adequate bathroom facilities.

2.7.19 **Q:** That could be very expensive for them. Am I right in thinking that they will pay for the upgrade?

2.7.20 **A:** Yes. They can receive a micro loan to help pay for it at the beginning. And then they pay it back as they get money from visitors.

2.7.21 **Q:** What about the logistics of putting in suitable plumbing? I mean there is no sewerage system and only a few houses have water pumps.

2.7.22 **A:** Actually, I'm happy you came with me for that reason. I have no idea how it should work.

2.7.23 **Q:** Tell me more about the meetings with the community. Was the first one very different from yesterday? In terms of numbers of people, and who it was that turned up.

2.7.24 **A:** Yes. There were a lot more people at the beginning. Everyone wanted to see what it was about. But only those who wanted to participate are turning up now.

2.7.25 **Q:** So is it a good mix of Chau Ma and X'Tieng people?

2.7.26 **A:** No, actually it is more the Chau Ma there now. Very few X'Tieng are still attending.

2.7.27 **Q:** Why is that?

2.7.28 **A:** They say it is because they are too lazy.

2.7.29 **Q:** Do you think they are too lazy?

2.7.30 **A:** Perhaps. Maybe they just prefer to do other things. They don't like to talk to us much; I don't know.

2.7.31 **Q:** But there has to be a reason that one group are more willing to participate than the other. Do they live together or separately?

2.7.32 **A:** They live in different parts of the village. The Chau Ma are here, near the community centre, in these concrete houses. The X'Tieng are over there towards that hill. They were the first to have houses built by the government, so they are only in wood.

2.7.33 **Q:** Will you take me over that way?

2.7.34 **A:** Sure.

Appendix 3: Interviews with Environmental Professionals

These are interviews taken with a range of environmental professionals with experience in and around Cat Tien

3.1 Environmental Consultant, Ho Chi Minh City

This interview, conducted with an International Environmental Consultant based in Ho Chi Minh City, was completed remotely via video conferencing, following previous email communication for the request of documentation concerning environmental issues in the region. The purpose of the interview was to further understand the environmental concerns specific to Dong Nai, and to understand some of the contradictions in what is written in Vietnamese and international standards, and their implementation. The Interview was conducted in English.

- 3.1.1 **Q:** What is it your company does?
- 3.1.2 **A:** (note: Company's name) provide environmental consulting services for a range of clients across a wide range of sectors. We work with around 60% of the fortune 500 globally. In Vietnam, given were the markets and opportunities are, we focus mainly on the oil and gas and manufacturing sectors. For companies in these fields we mainly work on environmental impact assessment (EIA), environmental site assessments, health and safety management plans and accident and emergency response plans.
- 3.1.3 **Q:** Have you worked in the Dong Nai, Cat Tien region?
- 3.1.4 **A:** Yes. We conduct a lot of environmental, health and safety assessments for manufacturing facilities in the Dong Nai region, as it has Vietnam's largest number of industrial zones.
- 3.1.5 We occasional do more interesting, wider ranging work in Dong Nai as well. For example, we recently conducted a river health survey of the Dong Nai river from the La Nga, Tri An Reservoir juntion down. We were working with a client who operated a foreign owned yeast facility that was under considerable community pressure from local fishermen and other downstream users for what they saw as the company's role in river pollution problems. The client was after a more comprehensive understanding of the state of the La Nga and Dong Nai, in order to be able to defend their position.
- 3.1.6 **Q:** And what was the result?
- 3.1.7 **A:** Our results were limited. There are a large number of industrial zones and state owned companies in the region, and the government is very sensitive about releasing and sharing information about the environmental health of those river systems. We therefore received no cooperation from the Dong Nai Department of Natural Resources and Environment in releasing any of their water monitoring information, as they suspected we were working with the client. This non-release of information wouldn't happen back home or in countries like the US or England.
- 3.1.8 So we were left with a small number of publicly released reports into the state of the La Nga / Dong Nai and no recent government monitoring reports. The reports we did find were all 4plus years old, which means we weren't able to give an updated picture. It was a good example of the difficulties that can be faced in VN in regards to accessing information. The government here are particularly concerned about controlling both information flows and political processes. The case with our client on the La Nga was sensitive because next door was a large state owned sugar refinery, which did not operate a waste water treatment plant. Our client's yeast facility did. We which had tested and was shown to be only discharging small concentrations of pollutants in its wastewater. Because of the level of community concern, the Department of Natural Resources and Environment and the Dong Nai People's Committee were not willing to assist us. I suspect because they did not want any outside influence on the potential political

processes that may be taken.

- 3.1.9 **Q:** Was that the project for which you sent me the water quality reports previously?
- 3.1.10 **A:** Yes, it was. However only one of those reports had been made public, which highlights the problems we had for that case, as we couldn't use the others. The report that had been released was the 2006 VN Environment Monitor Report. There is a Vietnam Environment Monitoring Report released each year that focuses on a particular aspect of Vietnam's environmental challenges. The 2006 one was examining water conditions in three river basins in VN; one of which was the Dong Nai river basin. It was a joint report by the Ministry of Natural Resources and Environment, DANIDA and the World Bank I think. It was a useful report, however as it was 4 years old at that point, and although the report was written in 2006, a lot of the statistics date back to 2002.
- 3.1.11 That's one of the problems we have here; access to information. Anything we can get hold of is always out of date and it's deliberately kept so. We learnt that the WWF in conjunction with the Dong Nai Department of Natural Resources and Environment had just concluded a research report into water quality in the La Nga, Ho Tri An (Tri An Reservoir) and the lower Dong Nai; which was perfect for us. However WWF were not given permission to publicise the full report. At least they hadn't been in Jan / Feb 2010. We suspected that the reason for this was because water pollution in Vietnam in general, but particularly the Dong Nai basin is becoming such a concern that the government are being very cautious in the manner in which the issue is managed and publicised.
- 3.1.12 The WWF report shows the huge pollution build up in the river. It presents a scenario in which it states that even if all waste water entering the river for the next 5 years was captured and treated to Vietnamese drinking water standards, the river water overall would still be below the national standard. So, you can see why the government is particularly sensitive about the release of information concerning river water quality here.
- 3.1.13 **Q:** How is that comparable to other rivers in Vietnam?
- 3.1.14 **A:** Well, the 2006 Vietnam Environment Monitor Report covers 2 other river basins that are both part of the Red River Basin, and although they both have significant pollution issues, the Dong Nai basin is the country's most polluted. This is due to the fact that Dong Nai and Sai Gon are the most important economic zones in the country. Dong Nai has the largest concentration of industrial zones in the country. Nationwide it is estimated that only approximately 30% of industrial zones have wastewater treatment facilities. They are all required to be by VN law, but lax enforcement and a rush to meet economic targets has meant that most of them do not have treatment facilities, and many of the industrial zones with treatment facilities have facilities that are inadequate to cope with full operation. So, that's a lot of untreated wastewater that has been being discharged into the Dong Nai basin for quite a long time now; hence the scenario that the Dong Nai river would still be too polluted to meet Vietnamese standards for surface water even if all wastewater entering over the next 5 years was treated.
- 3.1.15 What all this shows, I think, is the pressure each provincial government is under to meet economic targets and how unrestrained economic growth takes precedence over economic growth that is more responsibly managed.
- 3.1.16 **Q:** So is it fair to say international companies are the only ones under pressure to adhere to Vietnamese environmental standards?
- 3.1.17 **A:** No, I don't think so. However I think international companies are often more in the spot light - such as the Vedan case a couple of years ago, and they often come prepared with more stringent internal company social and environmental standards - although not in the case of Vedan! Large international companies are very aware of their image issues and have serious public relations awareness. This means they often have much more stringent internal social and environmental operating guidelines than find in Vietnam.
- 3.1.18 **Q:** To what extent is the Vietnamese Government under pressure or given incentives for social and environmental issues from the World Bank, or other international organisations do you think?

- 3.1.19 **A:** There aren't necessarily incentives that I am aware of, but where pressure does often come in with regard to environmental management standards for developing countries like Vietnam is through the environmental and social conditions placed on international funding for large-scale investment projects. The IFC Performance Standards are commonly used by financial institutions that enter into loan / funding agreements with government here. When large scale projects such as power stations, mines, dams etc. are being built in Vietnam, and at the moment there are many power stations either being constructed or in the pipelines, they generally can only be secured through funding from international financial institutions. Most of the large financial institutions have signed up to follow a number of international social and environmental standards, of which the IFC Performance Standards are particularly important. The idea behind these international standards is to try to ensure that money secured from international sources is not going to projects with large social / environmental impacts - or at least that such impacts are being managed to a minimum acceptable standard.
- 3.1.20 We have conducted a number of gap analyses for power plant projects in Vietnam. So, once an agreement is made between a donor and the Vietnamese government and a project is under way, there are requirements for the donor to contract a 3rd party to conduct monitoring of the progress to see if the standards set out in the IFC Performance Standards and any other standards the donor is tied to are being met in the construction and later operation of the project. There are considerable differences in the level of social and environmental attention that is required in international standards such as the Performance Standards and the attention that occurs in practise here.
- 3.1.21 **Q:** So the yeast facility example you gave before; was that a private investment or funded by an international organisation?
- 3.1.22 **A:** No; the yeast factory was an independent project. The types of projects that are funded by international donors tend to be large scale infrastructure projects of national significance; ports, power stations. I have worked on a couple of power station analyses for the donor parties.
- 3.1.23 **Q:** It's interesting that you talk about social and environmental impacts in the same phrase, especially when linked to something like the case study you've given me. How important do you think the environmental concerns of local communities are in changing the practices of large companies?
- 3.1.24 **A:** In a country at the stage of development that Vietnam is at, not very. The yeast facility was a rare case where local citizens had taken affirmative action. A big part of the reason why was that the company had previously paid compensation to fish farmers further downstream in a previous complaint. The payment was probably meant to smooth the matter over, but in my eyes was a mistaken move as it made the company an 'attractive target' for those affected by water quality issues in the area. Here was a large international company that was seemingly admitting responsibility and paying out money; not a good move for them.
- 3.1.25 **Q:** Ok; so tying all this back in with the Cat Tien region, what is your opinion on decision 380, Payment of Environmental Services programme, which essentially links companies that are directly reliant on environmental services, with the protection of the catchment areas in which they operate?
- 3.1.26 **A:** I don't know about the decision in detail, but I think the idea has merit. There are a number of potential problems that would need to be avoided in order for the idea to work. The areas that are being targeted for preservation through company payments would need to be the correct ones in terms of environmental services provided, they would need to be large enough and they would need to have clear enforcement, responsibility guidelines, and they would need to provide enough of an economic incentive for people to conserve the land. However if all of those factors worked, the idea has the merit of hopefully beginning to bring environmental protection and services to the fore of thinking and planning.
- 3.1.27 As I was suggesting earlier, much greater importance is placed on meeting purely economic goals at the moment, and social and environmental issues need to be given greater attention or it will simply cost more in the long run. However it would certainly not be enough by itself to bring say the water quality issues in the Dong Nai basin to an acceptable outcome. Much of the pollution is entering the river system in its

lower reaches, yet the areas targeted for decision 380 would be further upstream, where the environment is of a condition well enough off to provide the services considered worth preserving. But I think the key ideas behind the payments for environmental services are important in improving environmental and social management in developing countries like VN.

- 3.1.28 As the example of the lack of wastewater treatment facilities in the industrial zones shows, economic considerations are given greatest weight in development decisions currently. A way to balance that would hopefully be to tie economic values and considerations to environmental and social capital in the country. So, I think that's where the potential strength of the decision 380 lies. It faces many issues in terms of final design and implementation, but attempting to ensure decision makers consider the economic implications of environmental and social management is an important goal.

3.2 International NGO- Global Level Representative

This interviewee is a global level representative of an environmental NGO. We talked one evening in the lodge where we were both staying. His reason for being at the park was to attend an internal conference of the organisation, which happened to be held at Cat Tien this year. The interview was conducted in English.

- 3.2.1 **Q:** I'm working on my masters' thesis. I'm researching what makes people perceive nature in such different ways. What are you working on?
- 3.2.2 **A:** I'm coordinating the campaign for protection of Flagship Species for (the NGO). I used to work in fish protection in Colombia and now I am in Denmark. It is an interesting topic you have. For me the question would be; what gives people their perceptions of right and wrong concerning nature? It is the law that logging and poaching etc. is illegal, and yet people still do it, and of even more concern, it is socially acceptable. What would it take to change that? Why is it that you would be socially shunned for committing murder or for human trafficking, but not for transporting 14 tonnes of Pangolin to Thailand? 14 tonnes!
- 3.2.3 **Q:** Well, is that not a perspective you hold rather than an absolute right? If you value animal life as you do human, then it is indeed a serious offence. But many people don't. How then do you convince people it is wrong?
- 3.2.4 **A:** Sure. But I think they know it is wrong. People have been hunting in this forest, some for 15 years, and they acknowledge that it is getting harder, that animals are disappearing forever. But when the problem is so huge, I mean thousands of traps... It is the tragedy of the commons. If someone's neighbour is earning thousands of dollars from it, why would that person stop? Even if they know it is leading to extinction.
- 3.2.5 **Q:** So they stop feeling it is their responsibility? Or that if they are personally lawful, it will still happen anyway? Then isn't that down to the law being enforced then? The motorbike helmet law was implemented successfully here only a couple of years ago. There were police out on the street for the first few days, fining everyone who didn't wear a helmet. They had planned it for while, and it worked! You now see very few people breaking that law.
- 3.2.6 **A:** Yes; enforcement is a very big part of it, but the government has to want to do it, and for something like helmets there is no-one who will benefit from people not wearing them. It is a different case with animal smuggling. There are systems in place, but they are not working. What is needed is political will.
- 3.2.7 We know who the main ringleaders are, but they are so entwined with the government that they are untouchable. We know everything about them, down to their names and addresses. The corruption is at every level. So when someone high up in the government has decided rhino horn is a cure for cancer we lose 24 rhinos in Africa and the last Rhino in Cat Tien. This is new. It's not a traditional medicine, it's a superstition.

- 3.2.8 **Q:** Where does that put you as conservationists, when now you have to become politicians?
- 3.2.9 **A:** We are politicians, didn't you realise?
- 3.2.10 **Q:** It doesn't specifically come across in your literature.
- 3.2.11 **A:** That's interesting that you say that, maybe it doesn't. We work at every level. Not so much implementing projects, but advising, negotiating, brokering- we are politicians..So we were asking ourselves today, how is it that we can get the right people to listen? We need to be creative. Do you have any ideas?!
- 3.2.12 **Q:** Why is it important that they listen? As the director of flagship species programmes, what do you see as being important. Surely if there isn't an ecosystem for them to live in then it is pointless trying to protect them. Do you see what I mean?
- 3.2.13 **A:** Yes I see exactly what you mean. That is why we have a director of the Greater Mekong Region for example. But you can't see an ecosystem as just as an island of living things. They are more connected at larger scales. To preserve a defined ecosystem does not guarantee the protection of a flagship species; in fact, we have found little correlation. When people are more aware of them, they become more desirable. There's less chance of survival. So we try to keep our findings quiet or vague, but still people find out anyway. I don't know, maybe we shouldn't do that.
- 3.2.14 **Q:** So why are flagship species more important than any other species? Species go extinct almost unnoticed all the time. In terms of biodiversity, why should so much effort go into saving rhinos than say frogs?
- 3.2.15 **A:** For me personally it shouldn't but for some people it does. Flagship species are the ones that are representative of the issues concerning wildlife.
- 3.2.16 **Q:** So is that because of the way people relate to them; i.e they are more likely to sympathise with the plight of a rhino, or a cute monkey rather than a worm or something?
- 3.2.17 **A:** Yes, and also flagship species are the ones that are directly targeted rather than being lost as a result of other activities.

International NGO- Regional Representative

The regional level NGO was contacted by email. In his response he provided the Logical Framework (Extract- Appendix 6) for the project.

International NGO- Local Level Representative

The interview with the Local Level Representative is outlined in (Appendix 2.7) as it was conducted in relation to the project they are implementing.

3.3 Biologist, Cat Tien National Park

This interviewee is an international biologist who is currently writing a general guidebook for Cat Tien National Park. I spent five days assisting him to accurately map the most established trails taken in the national park, and learnt about biodiversity and agriculture along the way. The interview was conducted in English

- 3.3.1 **Q:** Why are you writing a guidebook? This can't be part of your day job?
- 3.3.2 **A:** No it's not. But I have come here many times and the park leaflet doesn't tell you anything. The maps are wrong, the information is limited, and as I'm exploring the routes anyway, I thought I would record them for other people to use. I'll also include some of the more common wildlife that people are likely to see as well as the more spectacular rarer species.
- 3.3.3 **Q:** That's a good idea, but there seem to be a lot of species! Do you think some of them may be new to science?
- 3.3.4 **A:** Oh yes, certainly. Tropical rainforests are by far the most species rich terrestrial ecosystems in the world. If you took any square metre of this rainforest and collected up all the species within it, there would almost certainly be several new species that have never been recorded before. Tropical rainforests are the most bio diverse places in the world.
- 3.3.5 **Q:** So what is the importance of biodiversity?
- 3.3.6 **A:** Well apart from its value to science, I mean you never know what you might learn from nature, it is the regulating power of the ecosystem. That includes regulating water and nutrient cycles, flood mitigation, and acting as a carbon sink which counteracts climate change. It is the diversity of this forest that makes it so effective, thousands of species all living together. How many can you remove before that system collapses? No one knows.
- 3.3.7 **Q:** And what do you think is the biggest threat to the tropical forest?
- 3.3.8 **A:** Encroachment is the most damaging and most prevalent. Increased pressure on forested land by agriculture wipes out some of the smallest species that have evolved to suit that microcosm and fragments the forests decreasing the territories of larger animals. Agriculture is by far the largest industry around here, and farmers will take the opportunity to gain more productive land if they can.
- 3.3.9 **Q:** What are the consequences of ecosystem degradation here?
- 3.3.10 **A:** Have you seen where the stream meets the Dong Nai (river) up at Heaven's Rapids? It's incredible. There is actually line where clear water meets cloudy water.
- 3.3.11 **Q:** So the Dong Nai hasn't always been brown then?
- 3.3.12 **A:** No! Of course not. That is all agricultural run-off. Not only does the topsoil change the composition and clog up rivers but it means nutrients from the fields are washed away and production yields fall. That increases the use of chemical fertilisers, which is not only also damaging to the environment, but expensive for the farmers too.
- 3.3.13 **A:** Flooding has become more and more frequent in this area. Last year, the water went up to the (park) headquarters. We were stranded for a week. The other thing that you can see, especially in the more degraded areas is the presence of invasive species like Mimosa Pigra. They crowd out the native species, lowering the biodiversity and making native species more susceptible to disease.
- 3.3.14 **Q:** What would you consider the more important actions for conservation?

- 3.3.15 **A:** Firstly the protection of riparian zones. Perhaps by planting something like bamboo, which has a good root structure that holds soil and is fast growing. That will protect the waterways and help farmers too. This can be combined with training the farmers in better land management, planting and disease and pest control, to help increase yields in smaller areas of land.
- 3.3.16 **Q:** Surely that would only work if there are the right governance structures in place too though? Otherwise people will still clear forested land to increase their yields further. And farmers on the river banks would lose some of their land to riparian zones.
- 3.3.17 **A:** Yes, that is a matter of zoning. The park is designated as a protected area, but the forested lands nearby are not. If the park is already struggling to protect the designated national park, it's probably too much to ask for unprotected forested land in the buffer zone to be protected too. Well that forest is more degraded anyway. A lot of it will have been cleared of the larger trees and animals, but for the few species that are taken out for their commercial value, there are still many many species that are left and thrive.

3.4 International Development Organisation Representative; Ho Chi Minh City

This interview was conducted in Ho Chi Minh City at the offices of an international development organisation with strong links to conservation. I spoke to a lady who was working on the improvement of livelihoods in the Dong Nai river basin region. Although I knew they had previously done a project in Cat Tien National Park, I was also interested in their activities in the areas surrounding the park, and the strategies they used to maximise positive impact through their projects. The interview was conducted in Vietnamese.

- 3.4.1 **Q:** Could you please run me through what your main goals as an organisation are?
- 3.4.2 **A:** Primarily, the goal is to improve the biodiversity of the Dong Nai River basin. And for that we have four objectives; to restore the forest and create linking corridors between areas of forested land; to create financial mechanisms for biodiversity conservation services. This we are doing through PES or Payment for Environmental Services; to improve livelihoods; and to raise capacity of governance for biodiversity.
- 3.4.3 **Q:** I understand that you have done a lot of activities concerning these aims? Some tree planting in Cat Tien for example.
- 3.4.4 **A:** Yes. That was 200 hectares of enrichment planting in Cat Tien. We've also been planting timber species in Lam Dong Province- dipterocarpus, bamboo, hopia, cocoa, including native species that are endangered.
- 3.4.5 **Q:** What influences your choice of what to plant?
- 3.4.6 **A:** We have done a detailed economic species assessment to make those decisions. It is based on their importance for biodiversity, chances of survival and also based on their market values. That way we are able to restore the forest and improve livelihoods concurrently.
- 3.4.7 **Q:** are these activities successful?
- 3.4.8 **A:** In Cat Tien, yes; very successful. This is because the project was in state forest, so it can be easily protected. Other smaller projects include growing plants for essential oils, skills training and market linking for bamboo handicrafts.
- 3.4.9 The enrichment project in Lam Dong has been trickier. There we are working with private

households. Here there is the special condition that the land was acquired for the government through the World Bank and leased to the households. The condition was that they cannot do anything with the land, and when the timber reaches maturity the government would give them a share of the earnings. In the mean time, the timber plantation is enriched with bamboo and cocoa etc. for the farmers to be able to make immediate profit. However it hasn't been successful on a large scale.

3.4.10 **Q:** Why is that?

3.4.11 **A:** They wanted farmers only to clear the bushes and not trees, but they tended to burn everything down. It was too difficult for them to do.

3.4.12 **Q:** What makes it difficult?

3.4.13 **A:** It's partly habit. They are used to clearing large patches of land and then growing their crops. Also, it is poverty. Dealing with daily meals, trying to provide for the family. It's a time consuming process; time that they don't have. The other thing is that they don't see the value in biodiversity, or even if they do, they can't see it having any short-term benefit.

3.4.14 **Q:** So was that project deemed unsuccessful then?

3.4.15 **A:** Well, we just changed the scope. The project time was too short. We only had two years and planting has to be done in the rainy season. The few farmers that we worked with who did respond well to the project now have successful agro-forestry plantations. On a model basis we hope that these farmers can lead by way of example and help educate others to do the same. Everyone copies what their neighbours do here, so that may work.

3.4.16 **Q:** What about the other objectives? You mentioned financial mechanisms and capacity building.

3.4.17 **A:** Yes. We're working at all levels. We helped support MARD (Ministry of Agriculture and Rural Development) to put in place decision no. 380 to test a policy for payment for forest services. We've done awareness raising for PES and biodiversity and study tours to the US, to the US Forest Bureau.

3.4.18 **Q:** Who was that aimed at?

3.4.19 **A:** All people involved. The core working group, people at the provincial level in Lam Dong and policy makers at national level. At the community level we've been doing education programmes to integrate ideas of biodiversity and conservation into the development plan of the community, and putting on events and games, like knowledge contests between communes. We've also been explaining the idea of PES to targeted people.

3.4.20 **Q:** can you explain to me what PES is?

3.4.21 **A:** Yes. Basically, it is companies, say in Ho Chi Minh City who can be positively affected by conservation in Lam Dong pay to protect the forest; so that would be tour companies who would see value in sending their customers to forests, or water companies who would see value in the purification of water in the river by forests. So the companies pay for the protection of forests that are directly beneficial to them, and that money goes to the province who transfers money to the forest owners. It is all within a commercial contract. So far the tests show it to be successful.

3.4.22 **Q:** How did you persuade people that there is value in doing this?

3.4.23 **A:** It's all done by economic values. We hired experts to calculate the value of the forest, using something complicated with a k coefficient. That formula shows the buyer's value. In this case the buyer is the water or tourism company and the seller is the owner of the forest. With that calculation they can see for example that the water company had to pay a lot of money for purifying the water in

Dong Nai. If they protect their sources they can save more on this process.

3.4.24 **Q:** So the key is that there is a direct incentive because the contract is with the environmental service provider rather than say a tax that encompasses every waterway of forest.

3.4.25 **A:** Yes exactly.

3.4.26 **Q:** That must have been quite a challenge to get that decision through.

3.4.27 **A:** Yes! At every step of the way. It was so so difficult. It started with the immediate threat to 52,000 hectares of pine. We tried to persuade them that through PES that there was an alternative, but people didn't understand. Even at the highest level. We would pay for people to go to see successful examples, but still they wouldn't go. Eventually we lobbied even higher and through a lot of red tape (just to get a piece of paper signed we have to talk to several people) we got the government to exert pressure at the lower levels.

3.4.28 **Q:** How did you persuade people at the higher levels?

3.4.29 **A:** Well, we went through contacts, already formed relationships, talked to them to explain and educate them on the concept. We paid for them to go on study tours and to international conferences and workshops, and also persuaded MARD to host an event. When that was successful, I think there was more enthusiasm, because they could start to see that they could change things and make a difference. Now we can approach the Prime Minister.

3.4.30 **Q:** Do you think you had to make a lot of sacrifices along the way?

3.4.31 **A:** Yes many. For every successful bid there must be 10 unsuccessful ones. Sometimes we have to accept there are bigger forces influencing the decisions made. There is a lot we can't do, but at least we are reaching our targets. You have to be creative.

3.4.32 **Q:** Do you work with any other development organisations?

3.4.33 **A:** Yes, plenty of regional and international organisations. We all have our own projects but will work together when it is appropriate.

3.4.34 **Q:** What about your largest donor, USAID? Have there been any conflicts there?

3.4.35 **A:** Well it's USAID Asia Pacific, which is based in Bangkok. Before we had big problems with the proposal written from D.C, but it has been rewritten since and that has made the implementation different; more successful I think.

3.4.36 My bosses are always on the phone to the donors, which seems to be quite stressful. It is problematic to try to prove success in projects. Especially when they are so short. How can you measure the impact it has in that time?

3.5 Environmental Engineer, Cat Tien National Park

This interviewee is a Vietnamese Environmental Engineering specialising in Quality Control. For the past month she has been running a workshop with the Kiem Lam Rangers to assess working structures and build capacity within the force. I spoke to her with the aim of understanding the structure and organisation of the park authorities, and how this affects conservation strategies. The interview was conducted in Vietnamese.

- 3.5.1 **Q:** Can you explain to me what the organisational structure of park employees is?
- 3.5.2 **A:** Well, it is very limited. I've been working with the rangers, and within that group there is no structure that I can see. But in terms of the Park, there is the Director of Course, and his deputy in charge of technical teams under which are the rangers, surveyors and technicians and administration, and then there is the deputy in charge of tourism, who run that department.
- 3.5.3 **Q:** So what is it you are trying to do with this structure?
- 3.5.4 **A:** The main aim is to build capacity, to make protection through enforcement and education more effective. Working with the rangers to build teams and working structures. Although, I must say, I am struggling at the moment.
- 3.5.5 **Q:** Why is that?
- 3.5.6 **A:** I have a lot of difficulties working with the technical groups. They are very set in their ways. The rangers are also very closed with information and can be antagonistic.
- 3.5.7 **Q:** Why do you think that might be?
- 3.5.8 **A:** Maybe because of what my job is. They don't want to be criticised in any way and maybe that's what they think I am here to do. Or maybe they don't think that I can help them, that they know everything. It is a very macho job.
- 3.5.9 **Q:** So do you think maybe they don't relate to you well because you are a woman?
- 3.5.10 **A:** Yes. I think that is a big factor. Look at anyone here who has authority. They are all men, apart from the NGOs. But then we have international or city based employers. And for Vietnamese women they may respect us less than western women. Actually it's the older men more. They are more arrogant and don't like to take orders.
- 3.5.11 **Q:** So do you think it is this 'arrogance' that prevents conservation plans being carried out effectively?
- 3.5.12 **A:** I think it is a lot of things. Partly that. There is a conflict of interest. It is not enough to expect people to do the job well as a contribution to a larger cause. They get a bonus for the number of traps collected, but that is the only real incentive. When there is a group of them alone in a remote place, I think it is too easy for them to just put in the minimum.
- 3.5.13 But really the problem is the organisational structure. There is no method for monitoring success or failure. I think the director understands very well some of the courses for action for improvement, but there are too many breaks in the chain. Orders get lost or distorted and he ends up micromanaging. But it is very typical that when they are told to do something they will agree, but not do it.
- 3.5.14 **Q:** How can that change?

A: it is very difficult. I am working on it. One system we have implemented is to give each guide a GPS. This information on where they have gone on which day is then recorded and analysed back at

headquarters.

- 3.5.15 **Q:** That sounds good. Does that solve a lot of the issues?
- 3.5.16 **A:** Well, at least it makes sure they are going into the forest. The Kiem Lam (Rangers) basically live with the communities. They know some people very well, so are they really going to turn people in if they come across them in the forest? Or maybe they just get paid off. So they just pick up the traps, or report felled trees.
- 3.5.17 **Q:** And what about other aspects of the conservation programme? How well does the NGO you are consulting for work with the Park?
- 3.5.18 **A:** I can't really go in to that, but they do have a long history and a strong relationship.
- 3.5.19 **Q:** Ever since the Rhino was rediscovered right?
- 3.5.20 **A:** Yes. I think that is what gave it National Park status. Surveys for the status of species in the park have been done every year very well. But what for? Has protection improved in the last decade? Maybe not.
- 3.5.21 **Q:** But what does that now say about the legitimacy of National Park status? Now that they have found what they believe to be the last Rhino dead.
- 3.5.22 **A:** I don't know. Maybe there will be less funding. I'm not sure.
- 3.5.23 **Q:** Ok. So what about the other department then? Tourism.
- 3.5.24 **A:** This is interesting, as tourism is potentially a good way of making money for the park if it is done well. There are some improvements that can be made to attract more tourists, and needs to be done better so people pay more money.
- 3.5.25 There is a problem when money from the government is set aside to build housing for rangers, but actually it goes on building rooms to accommodate tourists. So tourism is not making profit for the park.
- 3.5.26 **Q:** It sounds as though some significant structural changes would be needed to put accountability into the system. Is that fair to say?
- 3.5.27 **A:** Ideally. But I am here only to make small changes to build capacity. Not to change the system. That is impossible.

Appendix 4: Tourists to the National Park

Several tourists to the park were interviewed during this period of study. They were all conducted within the National Park, and were targeted to try and gain a wide range of experiences and perceptions.

4.1 Western Couple

I spoke to a young western couple at the lodge where they were staying. The interview was conducted in English.

- 4.1.1 **Q:** What made you decide to come to Cat Tien?
- 4.1.2 **A:** Well, we decided to take a trip around Vietnam. It's our honeymoon, and we wanted to see as much of the country as we can. Cat Tien was really high on the list for us. We both really like the outdoors, and wanted to see some of the tropical forests. It's so tranquil and remote here too, especially after the madness of Ho Chi Minh City. So we found it on the internet and it doesn't seem to be too much on the tourist map yet. It's nice to do something a bit different, off the beaten track.
- 4.1.3 **Q:** So is it what you expected?
- 4.1.4 **A:** Yes, pretty much. It's really amazing here. I mean I don't know what we were expecting really, but the atmosphere and accommodation is great. We haven't done any of the tours or anything yet. We'll probably go on one tonight. But it's just nice to chill out and wake up to the sound of the river and gibbon call. That kind of thing.
- 4.1.5 **Q:** What do you hope to see on the tours?
- 4.1.6 **A:** What is there? I don't know. I'm guessing we won't see a rhino or anything! We'll go to crocodile lake tomorrow, so maybe some crocodiles? And probably plenty of little things like snakes and spiders. To be honest, we're much more here for the peace and tranquillity. We'll enjoy the treks for the sake of the treks really. Easy to please!
- 4.1.7 **Q:** How long are you staying?
- 4.1.8 **A:** Just two nights. We are then heading on to Da Lat by car.
- 4.1.9 **Q:** And in Vietnam?
- 4.1.10 **A:** We've got three weeks altogether. Then back to reality again!
- 4.1.11 **Q:** So have you just come in to Ho Chi Minh City?
- 4.1.12 **A:** We've already spent one week in the south; Mekong Delta, Cu Chi Tunnels. So we are on our way to the centre now.
- 4.1.13 **Q:** I can see why Cat Tien seems so peaceful now. Have you seen any other tourists here?
- 4.1.14 **A:** Not too many. Although there was a big group of Vietnamese people leaving the park as we just arrived. That was a bit of a shock when we got off the boat!
- 4.1.15 **Q:** Why was that a shock?
- 4.1.16 **A:** They were so noisy. When everything else around you is quiet. We're still getting used to the people here. It seems as though there are people everywhere. Even in the jungle! And they are always making a lot of noise. There must have been about, I don't know, 18, 20 people, all very excitable.

- 4.1.17 **Q:** Were they young or old?
- 4.1.18 **A:** Oh young, definitely. Maybe even late teens or early twenties. Both boys and girls. I'm glad they left when they did!
- 4.1.19 **Q:** So you said earlier that you wanted to see some tropical forest. Have you ever been anywhere like this before?
- 4.1.20 **A:** Not a National Park. We've been to other remote areas before, and you get a sense of adventure from that. You know, meeting people in villages and going through paddy fields and stuff. But to go to untouched tropical rainforest is a different experience. The humidity feels heavier, like you're breathing in water all the time, and the trees and creepers are amazing. There's definitely nothing like it in the US. And the noises as well. What is that constant noise? Cicadas or something? It's so relaxing, but so loud. And there are just clouds of butterflies everywhere. It's so cool.
- 4.1.21 **Q:** They are cicadas yes. What about the negatives?
- 4.1.22 **A:** There haven't been any really. Well, maybe we escaped a negative with those people leaving. But apart from sometimes the humidity being a bit much, and the mozzies, oh and the leeches. They're pretty gross. You wouldn't want to come here if you didn't like bugs either!
- 4.1.23 Hey, it's just started raining. This is amazing. Sitting inside while it tips it down out there. I've never seen so much water as there is here.

4.2 Japanese Group

A few days later, I came across a group of Japanese tourists walking along the concrete path. There were two men and two women in their early forties, who from what they were wearing I could tell had come very prepared. It was primarily one of the men who spoke to me. It seemed as though he had the most fluent English.

- 4.2.1 **Q:** They are some pretty impressive lenses you've got on your cameras. What are you looking for?
- 4.2.2 **A:** Primarily birds. There are some wonderful birds here. You need these big lenses to be able to get good shots of them.
- 4.2.3 **Q:** Have you seen many so far?
- 4.2.4 **A:** Some. We've seen some pittas and babblers. Also a pair of giant hornbills.
- 4.2.5 **Q:** Are there a lot of birds here compared to other places?
- 4.2.6 **A:** Yes, this is one of the best places in Asia to see birds. Many of the species here, other places in Asia don't have any more. I used to go to Thailand too, but they have much less now, Vietnam is very good for bird watching.
- 4.2.7 **Q:** How long are you here for?
- 4.2.8 **A:** Just 4 days this time. But it is not too far for us to come.
- 4.2.9 **Q:** So you are only here for Cat Tien?
- 4.2.10 **A:** Yes; we came straight from the airport to here. We will probably go to Saigon tomorrow though for one day of shopping, to keep the ladies happy! I have come to Vietnam for business before, but it is better to come for bird watching; to have time to see nature.

- 4.2.11 **Q:** You take your hobby seriously!
- 4.2.12 **A:** Oh yes. It is very interesting wildlife. And photography too. To do both well is very difficult. You can spend a life time doing it.
- 4.2.13 **Q:** What is it that you find fascinating about birds?
- 4.2.14 **A:** Well they are beautiful for one. So many different colours, and they move so gracefully. They are very interesting. And also to collect sightings of birds is an addictive hobby! Sometimes you can't photograph it, but you can see it and identify it. I keep a diary of all the birds I see, all over the world, and how many. Many people do it, so you hear where is good to see different types of birds.
- 4.2.15 **Q:** Where have you been in the park since you arrived here?
- 4.2.16 **A:** Not far. We've just stuck to this main path. It is the best place to view birds as there is enough of a clearing that you can see up in to the trees. If we go off the track it is more difficult to take our equipment, and there is less visibility anyway.
- 4.2.17 **Q:** And you are staying at the Park Headquarters?
- 4.2.18 **A:** Yes. It is ok there. Just somewhere to sleep and leave our things really.

4.3 Vietnamese Youths

I met a group of young Vietnamese tourists at the canteen. They were lively and friendly and invited me to join them for lunch. Over the course of the meal I was able to ask them about their experiences of Cat Tien. This interview was conducted in Vietnamese.

- 4.3.1 **Q:** You have a nice big group here. Where are you all friends from?
- 4.3.2 **A1:** We're friends from university, in Ho Chi Minh City. We will graduate next year.
- 4.3.3 **Q:** Are you here for long?
- 4.3.4 **A1:** One night. We are camping in the field, just by the headquarters.
- 4.3.5 **Q:** So you are going for the real outdoors experience then!
- 4.3.6 **A1:** Yes. It is the most fun way, and cheapest. So we can have a campfire, and do sing along and play music, and have activities.
- 4.3.7 **Q:** What about during the day?
- 4.3.8 **A1:** We have been just hanging out, eating, chatting really.
- 4.3.9 **Q:** Is it more fun as so many of you were able to make it?
- 4.3.10 **A1:** Definitely! It's a great opportunity for us all to have a good time. We're all good friends, so it would have been sad if only a few of us could come. How can we do our activities and games with just a few people? It would be really boring.
- 4.3.11 **Q:** Have you not gone for a walk or on a tour?
- 4.3.12 **A1:** We will go for a walk later on, when it gets a bit cooler. I want to go in to the forest, but a lot of my friends don't.

- 4.3.13 **A2:** There are leeches in there! And it's so far. What if we get lost?
- 4.3.14 **A1:** Where's your sense of adventure? It will be fun.
- 4.3.15 **A2:** No, I think I'd rather stay here.
- 4.3.16 **Q:** What made you choose to come to Cat Tien for the weekend?
- 4.3.17 **A1:** Just for fun really. It's somewhere different to see, and is close enough that we can go for the weekend. It's nice to go to the forest, to see nature and get away from the city. It's an adventure. There are so many trees and so much greenery. It's like getting back to our roots.
- 4.3.18 **Q:** What do you mean by getting back to your roots?
- 4.3.19 **A1:** You know like, going back to basics. Being backpackers, surviving on the minimum. It's a different lifestyle from normal. And it's also a team building experience.
- 4.3.20 **Q:** Do you think it is important that the forest is protected?
- 4.3.21 **A1:** Yes of course. It's very important.
- 4.3.22 **Q:** Why?
- 4.3.23 **A1:** Because it keeps the air pure and counteracts climate change, and the sea levels rising.
- 4.3.24 **Q:** And what's the best way of doing that do you think?
- 4.3.25 **A1:** Stop cutting down trees for wood I suppose.

4.4 Mixed Expatriate and Vietnamese Group

One weekend a group of nine expatriate and Vietnamese friends came to Cat Tien. I talked to the group at the Lodge where they were staying, and was conducted in English.

- 4.4.1 **Q:** What attracted you to Cat Tien for the weekend?
- 4.4.2 **A1:** We've always wanted to go, and never really got round to it. When this new lodge opened we thought that it would be the perfect opportunity to come up.
- 4.4.3 **A2:** Yes; also because of the proximity to the city it's a perfect weekend getaway. It's closer than the beach, and you don't have to fly anywhere. I mean, once you start flying to go on weekends away then you can go anywhere in South East Asia, but there's the hassle of waiting around at airports, and for a weekend, it takes up too much of your time.
- 4.4.4 **A3:** We're always looking for new places to go as well. You get a bit sick of just going to Mui Ne or Nha Trang (beach resorts) all the time.
- 4.4.5 **Q:** Was it what you expected?
- 4.4.6 **A1:** In terms of the location and 'jungle experience' yes. I mean there's a great atmosphere here; and the lodge is beautiful. Really nice and comfortable, although the service could do with

- improvement. I think the tour that we did could have been better. It was a good length, but the guide wasn't very good. He didn't explain anything and only talked to one or two members of the group.
- 4.4.7 **A2:** I've been here before by myself, before the lodge was here. It's definitely a huge improvement on what was available then. I really like bird watching, so it was great to go for that last time. This time it's just really nice to come up with friends, relax and have a good time. I enjoyed the walk too.
- 4.4.8 **A3:** I've been here before too, on a K1 fitness programme. That was really hardcore, slashing through the forest and staying overnight in the jungle. It was lead by these really huge ex-army men. This is such a different experience. Really nice and relaxed. You could probably do like Yoga weekends here or something. Yoga's getting really big in Saigon now. It would be nice if there were a pool as well.
- 4.4.9 **Q:** What do you think about the environment here? Do you think it's a big issue?
- 4.4.10 **A1:** It's got to be one of the biggest issues here. I mean, the amount of development going on its insane. Every week a new building pops up in the city, and you can see the amount of pollution there is, with the congestion and industry. You have to drive for miles before you can start seeing a bit of greenery. It's like a green island out here, coming out of all that pollution.
- 4.4.11 **A2:** There are people doing things though. We went to a fundraiser for – (An Animal NGO) a couple of weekends ago. They're doing fantastic stuff. Rescuing animals that are basically being tortured or killed. You hear some horrific thing about bears having bile pumped out of them, and monkey brain restaurants. It's pretty disgusting.
- 4.4.12 **A3:** But the health issue is pretty big I think. Everyone wears those masks in Saigon when they're out on their scooters, and you always feel so dirty when you get home from work. I just take taxis now. And climate change as well. Half of Saigon is at risk of flooding for parts of the year, and it's only going to get worse.
- 4.4.13 **Q:** What do you think about the idea of tourism as a means to promote conservation?
- 4.4.14 **A1:** Obviously eco-tourism is getting really big now. In principle it's a pretty positive thing, you know, like offsetting the carbon footprint of your holiday, and things like this where you are contributing to the protection of a national park. I don't know how successful these things tend to be in practice. Presumably it's to do with how the setup is managed. There's so much being marketed as green now, I think it can be misleading.
- 4.4.15 **A2:** Well it's not necessarily contributing to the national park if people who visit don't respect it properly. Litter seems to be an issue here, and some of those large groups can be so noisy; I mean what are they here for? It's clearly not the peace and quiet of nature.
- 4.4.16 **Q:** Did you see that group of scouts earlier? They were pretty rowdy.
- 4.4.17 **A1:** Yes, well that what I was thinking of.
- 4.4.18 **A2:** (Vietnamese) I don't know where they were from, but it's definitely one of the provinces. When I was young I was in the scouts in Ho Chi Minh City, and we would never have behaved like that. That was one of the most important lessons, to respect nature, not to litter or leave anything behind. It's unbelievable these kids were spraying paint on to rocks and trees. Actually it's not the scouts in the international sense. We used to have that, but the government banned it and set up their own organisation in its place; but I think it's similar.

Appendix 5: Interviews with local people and businesses

These are interviews taken with people in different parts of the Cat Tien Area. They represent a range of professions and family circumstances, and are linked to the National Park to varying degrees. All were conducted in Vietnamese.

5.1 Woman Farmer, near Nam Cat Tien Village

This was an interview with a lady who lives on a piece of remote farmland with her three young children near Nam Cat Tien Village.

- 5.1.1 Q: How long have you been here?
- 5.1.2 A: It must be over ten years now. I came down from the north, from Thanh Hoa province.
- 5.1.3 Q: Really? Why did you move down here?
- 5.1.4 A: At the time there was more land in the south than the north. It was getting too crowded and many of us came to farm the land here.
- 5.1.5 Q: Who did you come with?
- 5.1.6 A: Just my brother. My parents died a long time ago, and he died recently too.
- 5.1.7 Q: I'm so sorry to hear that. Are these your children?
- 5.1.8 A: Yes. The girls are now eight, six and four.
- 5.1.9 Q: And where is your husband?
- 5.1.10 A: He left, two years ago now. I don't know if or when he will be back.
- 5.1.11 Q: So you look after your children by yourself? How do you manage?
- 5.1.12 A: It's very difficult. We are very poor. The children have to look after themselves a lot of the time really. I need to work to support them.
- 5.1.13 Q: What do you do for work?
- 5.1.14 A: I grow rice mainly. Otherwise I harvest bamboo shoots. The town where I would be able to get labour work is too far away and I need to be close to home for the children.
- 5.1.15 Q: Is that profitable?
- 5.1.16 A: I have just over a hectare of land, and with one harvest I can make 6 million VND (300 USD). Usually I can get two harvests a year, unless the flooding is very bad. When I'm not tending to the field I can go and collect bamboo shoots. I may be able to get between 20 and 30 kilograms a day, so at 3000 VND per kilogram I'm making between 60,000 and 90,000 (3- 4.5 USD) a day.
- 5.1.17 Q: And are you guaranteed to be able to earn that every day?
- 5.1.18 A: Of course not. It's dependent on several things; if one of the children is sick or something like that I would have to stay at home.
- 5.1.19 Q: Do you get any sort of support?

5.1.20 A: I have no family left. The neighbours are not very near, but they sometimes help me out, with clothes and things like that.

5.1.21 Q: And from the government?

5.1.22 A: No. But it would hardly be worth it anyway. I have heard of people who get welfare support, but the money passes through the hands of so many people before it gets to the receiver there's barely anything left.

5.2 Elderly Male Farmer, Lam Truong

This was an interview with an old man who owns a piece of farmland near the border of Cat Tien National Park and Vinh Cuu Nature Reserve. He is a widower with two sons in their early twenties.

5.2.1 Q: What do you farm here?

5.2.2 A: Tangerines and cashew primarily.

5.2.3 Q: Have you always grown these?

5.2.4 A: No, we used to grow tobacco and soya, but the land isn't good enough anymore.

5.2.5 Q: Why is that?

5.2.6 A: Just because over the years the soil becomes poorer with farming. A lot of soil has washed away. We have to use more fertilizer, which has become uneconomical with those crops. Tangerines and cashew will grow on poorer soil.

5.2.7 Q: Do you own the land here?

5.2.8 A: No, it's government land. I have it free for 10 years, but the lease is for 50 years all together.

5.2.9 Q: How does that work?

5.2.10 A: The government have planted these rows of hard wood trees, and we farm in between them, allowing the trees to grow for fifty years. That way we get a very good rate.

5.2.11 Q: What happens after the fifty years are up?

5.2.12 A: I don't know. The lease finishes. I will be an old man by then anyway!

5.2.13 Q: How about your children?

5.2.14 A: Yes, it's nice to think that I will earn enough that I can buy a small piece of land. I am lucky that I have sons, so they can earn money too. As well as farming, I do day labour as well, as do my sons.

5.2.15 Q: How much do you earn a day from that?

5.2.16 A: usually 70-80,000 VND (3.50-4 USD). That's if there's work of course! It's not guaranteed.

5.2.17 Q: How much would a woman earn for day labour?

5.2.18 A: They earn less because they are weaker. Maybe 60,000 VND (3 USD).

- 5.2.19 Q: Have you had any problems with elephants here? I heard there were some nearby.
- 5.2.20 A: No not here. On the other side of the river they've had big problems. They come in and raid all the crops. They're really dangerous, they can knock over houses and kill people.
- 5.2.21 Q: How do you feel about the elephants getting killed earlier this year?
- 5.2.22 A: Obviously it's very sad, but I can understand why. No one can afford to lose crops like that.

5.3 Noodle Sellers in Cho 13

This was an interview with the grandmother of a large family and her granddaughter who runs a noodle soup stall, in Cho 13, a market village between Nam Cat Tien and Tan Phu.

- 5.3.1 Q: You have a very large family here. Who is everyone?
- 5.3.2 A: I have seven grandchildren living here with me. The fifth and sixth ones are out at the moment, but these are the two oldest boys, and then come four girls and the youngest boy is over there.
- 5.3.3 Q: They all look very similar, and a lot like you! Where are their parents?
- 5.3.4 A: Their father's out somewhere. My daughter passed away six years ago now. That's why I've raised the young ones. The eldest three are adults and can look after themselves and the now the rest are at school it's not too difficult. They've always been very close but very independent as well.
- 5.3.5 Q: How have you been able to support them throughout the years? That's a lot of mouths to feed!
- 5.3.6 A: The noodle business is very lucrative. We're in a good location just opposite the market and get plenty of customers. The two oldest take care of it really. Here's one of them now. We've also been doing events, like weddings where we provide hot pots and curries. We invested in a lot of bowls and chopsticks, and folding chairs and tables. Now we can provide a complete service for events.
- 5.3.7 Q: It sounds like a very good business.
- 5.3.8 (Directed towards her granddaughter) When did you start running the noodle stall?
- 5.3.9 A: I always helped out since I was little, but really since I finished school.
- 5.3.10 Q: How is it looking after your younger siblings? How old are you?
- 5.3.11 A: I'm 23. It's no trouble really. They're all very good, and do better at school than I did! Especially my next youngest sister. She's graduating high school this year, and she's pretty good at English. Hopefully she'll be able to get a good job.
- 5.3.12 Q: Is English important to get a good job?
- 5.3.13 A: It definitely gives you a foot up. Then you can get a job in an international company in the city, which is bound to pay more than anything around here.
- 5.3.14 Q: So do you think most of your sibling will go to the city when they graduate high school?
- 5.3.15 A: No, not necessarily. Only if there aren't any other alternatives here. We're pretty close, it would be difficult to see any of them go. I've only been to the city once or twice before, but it's so busy. Maybe

they'll want to go at some point, especially if any of them manage to get in to university.

5.3.16 Q: What about holiday? Do you ever go on holiday?

5.3.17 A: We're going back to our home town next summer.

5.3.18 Q: Where's your home town?

5.3.19 A: It's in the east, further than Binh Phuoc. My family moved from there before I was born.

5.3.20 Q: Do you go back often?

5.3.21 A: No I went back once after my mum died. That's it. But I'd love to go to Da Lat as well. I've heard it's nice and cool there. Or to Vung Tau.

5.3.22 Q: What about the National Park? Have you ever been there?

5.3.23 A: No. What's it like, is it beautiful?

5.3.24 Q: Yes, it's really lovely. Why don't you go there?

5.3.25 A: Yeah, I'd like to some time.

5.4 Timber Merchant in Tan Phu

This was an interview with a timber merchant living in Tan Phu town, whose primary business takes him between Ho Chi Minh City and the surrounding provincial villages.

5.4.1 Q: How long have you been living in Tan Phu?

5.4.2 A: Since the early nineties. My family is from Ta Lai, but I moved out here to be better connected for my business.

5.4.3 Q: What is the main bulk of what you do?

5.4.4 A: I trade in timber and antiques. My best business is reclaiming the timbers from old houses and reconstructing them for clients. There's beginning to be more of a demand for them now.

5.4.5 Q: Who is your clientele?

5.4.6 A: Mainly people from the city. They like the old traditional houses. And people here want brick houses, so usually what happens is that they build their new brick house next to the old wooden house, and just use the wooden one for storage or leave it to become termite infested.

5.4.7 Q: Why don't they sell the wooden houses?

5.4.8 A: There's very little demand for them here. People know that their houses could be valuable, but they can't sell it for any more than the going price for new timber, if that.

5.4.9 Q: Why should old wood be more valuable than new?

5.4.10 A: It tends to be very good quality hardwood. You just can't get it any more. The wooden houses around here were built from the surrounding forest, mainly in the 80's and some before. Some of the

columns are big round posts, which have aged and darkened over time. They are very stable and strong, and will not warp anymore, and the wealthy people see their value. New wood, although it isn't as good, we have to import now. So the prices are high.

- 5.4.11 Q: Do you trade in new wood as well?
- 5.4.12 A: Yes. We need new wood to supplement the old, for the smaller timbers and panelling etc.
- 5.4.13 Q: Where is that imported from?
- 5.4.14 A: Indonesia, mainly if it is important for people to have paperwork from a certified source. Also over the border from Cambodia and Laos.
- 5.4.15 Q: And is that certified?
- 5.4.16 A: Some of it. But the paperwork often gets mixed up, so you can never be sure.
- 5.4.17 Q: There are also reports of logging in this area, around Cat Tien National Park. Does any of that get mixed up as well?
- 5.4.18 A: Yes, I wouldn't say it is particularly difficult for people to get illegal logs into the timber trading routes. Essentially, once it has been mixed in with the legal stuff it's very difficult for the authorities to track in the country.
- 5.4.19 Q: But what about all these timber plantations nearby. Can't legal wood be sourced from there?
- 5.4.20 A: They're owned by large logging companies who mainly plant fast growing wood for making paper. They are not of building quality. Or they are owned by the government. Any hard woods planted by them are still young, they'll take 30-50 years to grow, and I don't know if they will be sold on the local market at any point. If you go down to Lam Truong you'll see where they have planted.
- 5.4.21 Q: Most people in Ta Lai seem to be reliant on agriculture for their work. What made you think to start a timber business?
- 5.4.22 A: Well I still own some land. I think a lot of people have multiple businesses. You cannot rely just on agriculture, and it is seasonal too, so there is time to do other things. Unless people are farming a lot of land for a higher profit, agriculture becomes a fall back mechanism. I don't have time to look after my land any more, but my daughters tend to it in a bit when they are not at school. It's not very productive. We grow all sorts of things together, more like a garden really, so if we happen to get a good harvest of coconuts or bananas or dragon fruit, for example, we can sell it. That way, each year we usually get something for a minimum labour investment.
- 5.4.23 Q: is that a common way to farm?
- 5.4.24 A: Not really. Most people prefer to plant one crop that will make good money each season. That way they can harvest it all in one go and are likely to make higher profits. You really need to have another good income to do it the way we do.
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5.5 National Park Entrance Guard in Nam Cat Tien

This interview is with an ex-ranger, who now mans the entrance to the park by the river crossing. I interviewed him at the crossing, about working as a ranger, his home life in Cat Tien and the people who come to the park. The interview was conducted in Vietnamese.

- 5.5.1 Q: Why did you stop working as a ranger?
- 5.5.2 A: It's a really dangerous. I can't afford to do that kind of work anymore. I can make enough money doing this job and it's more flexible. My home is around the corner, so I can come and go.
- 5.5.3 Q: Why is that important for you?
- 5.5.4 A: I have to look after my sister. She was in a motorbike accident, and is now physically disabled. She's at home alone, so it's convenient for me to go home if I need to from here.
- 5.5.5 Q: Do you have any other family?
- 5.5.6 A: I have a younger brother as well. He's finished school, and I've just managed to get him a job here too driving the boats to cross the river. Both my parents died, as well as my older brother.
- 5.5.7 Q: I'm sorry to hear that. How did they die, if you don't mind me asking?
- 5.5.8 A: My mother and brother drowned in the river. It gets really rough in the monsoon season. I tried to save them, but the current was too strong. My father died a long time ago, from dengue fever.
- 5.5.9 Q: So you're the oldest now, looking after your brother and sister. Is what happened a rare occurrence here?
- 5.5.10 A: You mean drowning? No; it happens every year or so. It is so dangerous. The flooding can happen so quickly, and most people can't swim. Even if you can, you have to be a really good swimmer to even stand a chance. Boats can get hit by debris and capsize very easily too.
- 5.5.11 Q: Where's the nearest hospital?
- 5.5.12 A: Bien Hoa, for minor things and Saigon for a good hospital. It's quite a long way to go, especially when it is an emergency. And that's for all 7 provinces in this area. A lot of people are involved in accidents, and then there's the risk of malaria and dengue fever. Snake bites and scorpion stings can be pretty bad too, with the proximity to the forest.
- 5.5.13 Q: Are there a lot of people working at the park?
- 5.5.14 A: There's about 200 in total. Maybe 130 people working for the forestry protection department for Cat Tien and Cat Loc, that's including administration and management, and another 70 people working for tourism, in the restaurants and café.
- 5.5.15 Q: And do you think the system works well?
- 5.5.16 A: If the provinces are good at doing their part for conservation then it works well. If not then it doesn't.
- 5.5.17 Q: So it's dependent on how seriously the authorities take it in the surrounding districts?
- 5.5.18 A: Yes, but there are all these different departments, and their priorities are often contradictory, or at least unfocused towards protecting the forest. There are 8 policemen in the district, and they're clearly not focused on helping the national park. Then there's the tax department and the Women's

- department...
- 5.5.19 Q: The women's department?! What do they do?
- 5.5.20 A: Oh, you know, mainly they persuade women to have no more than two children. Things like that.
- 5.5.21 Q: Right, so what is the incentive?
- 5.5.22 A: With three children or more, the family is not allowed to be called "gia dinh van hoa" (cultural family). The paperwork for the third child is harder to get, and it's more difficult to get government loans. Some of the poorer families can get a 3 year interest free loan from the government. Families with two children get priority for those sorts of things, and the children are also more likely to get recognition from the government if they do well at school.
- 5.5.23 Q: How would you consider the education here? Actually, let me ask this first, what are the job prospects like around here?
- 5.5.24 A: I would say, not even 5% get a good enough education for a good job. Some of those people would work for the local government maybe, in administration jobs. Or join the army. Older people stay in the countryside, looking after their cashew fields, and probably the rest, say 60-70% will go and work in the city. They would do day labour in construction or motorbike taxiing, or working in the factories, that sort of thing.
- 5.5.25 Every household used to have some land and a cow or buffalo, but through the last generations with the land being divided by more members of family and the livestock being sold to pay for education, people have had to find other things to do.
- 5.5.26 Q: Does the environment or conservation feature in the education syllabus at all?
- 5.5.27 A: Actually it does now. Just for the last two years. But it isn't considered important really. I think it is just taught as a one off sort of lesson rather than integrated into the programme.
- 5.5.28 Q: The literature here says that one of the aims is to educate local people about the natural environment. Do local people around here like to come to the National Park?
- 5.5.29 A: No. Local people would like to go to Da Lat or Vung Tau on holiday if they can afford it. It's the city people who come to Cat Tien.
- 5.5.30 Q: Do the people who come here often stay long?
- 5.5.31 A: No, the large majority come and go within the day. Like those people over there. A group of friends will rent a car together and come up to have a look around and a picnic, and then go back again.
- 5.5.32 Q: Why don't they stay over?
- 5.5.33 A: To save on money is one reason. We get a lot of young people and students coming here, and a lot of them are forbidden to stay overnight anywhere by their parents. When families come, they sometimes stay the night.
- 5.5.34 Q: I saw a big group of kids in uniforms here the other day. Who were they?
- 5.5.35 A: Oh, they were scouts. Parents will pay the organisation 3.2 million VND for their children to be looked after for 10 days, and the learn to look after themselves, cook, clean their clothes, and they take them away to places like this to camp.
- 5.5.36 Q: So what is the main thing that people want to do when they come here?
- 5.5.37 A: Just have a look around really. Take in the atmosphere of the forest, maybe eat something and

have fun. Actually you'll be surprised to hear that a lot of people expect that there are wild meat restaurants here when they come! People ask about that a lot.

5.5.38 Q: So people don't do tours then?

5.5.39 A: Some of the larger groups do, usually if they are a bit older, and also groups of scouts or school children. Foreigners do tours as well.

5.6 Eco-lodge owner in Cat Tien National Park

This interview was conducted with the owner of the lodge at Cat Tien National Park. The purpose of this interview was to understand the motivations behind the project, their concept of eco-tourism in relation to benefits to conservation and the challenges they face operating under this model. She is Vietnamese, but has lived abroad for the best part of three decades. The interview was conducted in a mixture of English and Vietnamese.

5.6.1 Q: What is the concept for the lodge?

5.6.2 A: The concept is to use tourism to give a commercial value to the Park. So we've built low impact, low density accommodation that targets a mid to high range international tourist market. But what we believe really makes this project beneficial to the park, is that it is a public-private partnership. Part of the return from visiting tourists goes directly to the conservation programme.

5.6.3 Q: So what makes that different from the existing accommodation provided by the park?

5.6.4 A: There are two things. Firstly it's targeted towards a higher end tourist market, which means the money made per visitor compared to the environmental cost of transportation, noise pollution, litter etc. is considerably higher, which means the contribution does more than just offset the damage. It also means that the Lodge doesn't come in to direct competition with what already exists. We don't want to put anyone out of business.

5.6.5 But also it is managed as a commercial enterprise, which means there has to be more of a focus on customer service, efficiency and meeting the demands of the markets. It is only successful if we are self-sufficient and cover our costs. Unlike the government run operation we are not subsidised. To my knowledge this model hasn't been used in Vietnam before.

5.6.6 Q: Why do you think that is?

5.6.7 A: It's not the easiest commercial solution. It involves working directly with the government, which tends to mean a lot of negotiation, red tape and to some extent risk. The partnership means there needs to be a lot of trust both ways. They need to be sure we are working in the interests of the park, and we need to be sure they're not going to change their mind and kick us out any time soon. We've been coming here for years before doing this project, and have built up a very good relationship with the park director.

5.6.8 Q: Isn't that risky, to focus on building personal relationships with key people? What happens if the park director changes at some point?

5.6.9 A: That is something that is not well understood by westerners. In Vietnam personal relationships are very important in business relationships. Not only is it expected that you forge relationships with the right people, but I think it can also be a factor for the sustainability of the business. Of course it is not about relying on the relationships over a good business model, you must have that as well, but if you take the time to know and build trust with the people you are working with they will not be so quick to drop you the minute there's a dip in the business.

- 5.6.10 It's also the case here that we were able to provide a solution to a problem for the park. This building used to be an interrogation room for poachers that were caught, but it fell in to disrepair and ironically was then being used by poachers to squat in overnight or during the rains. They didn't know what to do with it and had no money to invest in it anyway. But anyway, of course if there is a change in management at the park it's the written agreements that stand, but we would always be interested in forging relationships with anyone else.
- 5.6.11 Q: Is that the case with your employees as well?
- 5.6.12 A: Yes. It is important to us that we employ local staff. As it is a small business, staff that stay with us are like family. It is nice to take the time to get to know them and understand their needs and family situations. The best staff are the ones who are keen and interested in investing themselves in to the business, rather than necessarily some of those who have better hospitality or English skills, but don't value the business in the longer term. Skills can always be taught if you have the right attitude.
- 5.6.13 Q: How many staff do you employ?
- 5.6.14 A: The maximum at one time has been twelve.
- 5.6.15 Q: And you said you take the time to know people's family situations. Have you seen any sort of correlation between the 'attitudes' people have towards work and their circumstances?
- 5.6.16 A: Here everyone is poor, although some poorer than others of course, and everyone has limited skills, especially in service industries like this one where the expectation is for an international standard. Then, as with everywhere else, there are honest people and dishonest people, which I don't think can be linked directly with circumstance, as some of the poorest people have more pride than those with a lot of money.
- 5.6.17 In general the women work harder, and follow instructions better. We have two women who get on well here. Both have young children to support and no formal skills and yet they are the most enthusiastic and proactive. One of the ladies cannot read or write, so everything is done in pictures for her. The other lady is very bright but had to leave school early. We are successfully teaching her English, and together they are now able to do jobs very well. And when we don't have visitors we let their children come here to play too so that they don't have to be away from their mothers for too long.
- 5.6.18 We have more difficulty with the men. Most of them have been pretty lazy, with a couple of exceptions. They expect to be paid more than women, regardless of their ability, and it is harder to get them to do anything. Older men refuse to take orders from younger men, and all men refuse to take orders from women. They love to delegate, but not do!
- 5.6.19 Q: What about your guests? Do you see differences in your customers?
- 5.6.20 A: Yes. I mean there are a couple of distinct markets that we cater for. The first being nature lovers, who's main objective is to see the park, but they would like a bit of comfort in the mean time. In a lot of ways they're easier customers because their expectation is fulfilled by the nature, not so much by the lodge. The other type is those who come here for the experience of nature. They are not necessarily so comfortable to be so close to the creepy crawlies or snakes or whatever that we inevitably get here, but they want to see the monkeys and big trees and crocodiles or bears from a distance, and generally absorb the atmosphere, the sights and sounds of the forest. Obviously a large part of that experience is provided by the comfort and service that the lodge provides.
- 5.6.21 Q: Is that primarily a western market then?
- 5.6.22 A: Yes, currently it is. Either people holidaying or expatriates from Ho Chi Minh City. Sometimes there are Vietnamese people who go with the expats. I think there will be a larger Vietnamese market for this sort of thing in the coming years, as we sometimes get interest from middle class city people, but for now, this set up is not targeted towards the majority of Vietnamese tastes.

- 5.6.23 Q: So it seems as though the way in which people engage with nature is very important to the business model. Is that fair to say?
- 5.6.24 A: Yes I suppose it is. The reason we are here is because we love nature. I can't stand to be in the city long any more. Especially when you can be out here. I love to grow fruit and vegetables for the restaurant, and develop dishes the way that we used to cook them growing up in my home village. A lot of these techniques are largely forgotten now in rural Vietnam. People are more interested in having the most modern things. But I think a lot of the people who come here are attracted to the same things as us. Eco-tourism is a growing industry and people in the West like to have home grown or organic food.
- 5.6.25 Q: So you don't think people around here are interested in growing their own food? Are there any of health concerns or negative attitudes to commercialisation, that sort of thing?
- 5.6.26 A: I think health is an issue here, especially when it comes to food safety standards. A lot of people grow their own fruit and vegetables to eat, as they can lower the risk eating chemicals. But at the same time there is a lot to be said about better food hygiene in commercially packaged foods, and they can be tested, for example for strains of disease in pigs and chickens. When you grow them at home diseases may be picked up too late.
- 5.6.27 There is this old phrase '*Cay nha, la vuon*' which means '*the trees of my household and the leaves of my garden*'. People used this when offering home grown gifts and it would be said with mixture of pride and modesty. I think there is less of that now, gifts like biscuits or sweets are bought and there is more show of wealth, people are ashamed to be seen as poor.

Appendix 6: Territorial and Status Implications for Cat Tien National Park

7.2 Contradictions in Zoning and Government Management

Appendix no.	Interviewee	Quote	Context/ Implication
1.1.2	Deputy Director, CTNP	CTNP is an ecological hotspot	Described in terms of state of biodiversity.
1.1.2	Deputy Director, CTNP	It is divided into two areas, Cat Tien and Cat Loc. These are bordered by the Dong Nai River	Political and Geophysical boundaries
1.1.2	Deputy Director, CTNP	The park is on the intersection of four provinces	Management is difficult due to working with 4 different provincial departments.
1.1.4	Deputy Director, CTNP	The buffer zone and transitions zone should be protected too	Sees bufferzone (in provincial boundaries) as integral part of conservation strategy
1.1.23 & 1.1.25	Deputy Director, CTNP	<i>On Vinh Cuu Nature Reserve:</i> The forest is generally not in the same condition as Cat Tien. It would devalue the National Park.	Described in terms of state of biodiversity. Believes joining now would make the status value of the park decrease.
1.1.25	Deputy Director, CTNP	<i>On the joining of Cat Tien and Vinh Cuu:</i> Under the condition Vinh Cuu becomes better managed it would be the most viable long term strategy.	Conditions for strategic plan for conservation.
1.2.10	Director of Tourism, VCNR	<i>On the joining of Cat Tien and Vinh Cuu:</i> The joining of the two areas is very important for the conservation of species like the elephant	Agreement with Deputy Director CTNP. Reasoning linked to 'charismatic' extinction prone species
1.2.12	Director of Tourism, VCNR	<i>On the joining of Cat Tien and Vinh Cuu:</i> To be controlled at provincial level would mean the decisions made would be in the best interests of the region, rather than being so dependent on the pressures of country level decision making.	Conflict on level of control of the state and province. Possibility of partnership but implications of power struggle between directors.
1.3.2	Tan Phu People's Committee	The majority of industry is linked to agriculture. We're also promoting construction, infrastructure, market development and technology based industries.	Contradicts 1.1.4- Strategies for development would not support buffer and transition zoning
1.3.16	Tan Phu People's Committee	This district would be 77,000 hectares, but the National Park already takes up 39,000 hectares	Implies rightful authority should be with Tan Phu District People's Committee
1.3.16	Tan Phu People's Committee	There is no potential for development. Tan Phu Sees no income generation from the tourism industry that the park brings	Seen as wasted resource. Has no benefit to the District
1.3.18	Tan Phu People's Committee	<i>On CTNP Authorities:</i> What they do is their business. We are responsible only up to the border of the park.	Contradicts 1.3.16- Shows lack of willingness for cooperation, even hostility.
1.1.19	Deputy Director, CTNP	The law states that the 'Kiem Lam officers may only detain poachers and loggers within the jurisdiction of the park. If they see them on the road driving away, they can only stand and watch.	Conflict in the role of conservational law enforcement of rangers and the boundaries of where they are allowed to operate.
1.4.13	National Park Ranger	It's often the same people from the nearby villages that we find, if anyone at all. There's not much point in handing them over to the provincial police	Suggests lack of coordination or unwillingness to work cross boundary
1.4.32	National Park Ranger	The police come by, maybe once or twice a year, when they raid a restaurant...	Law enforcement for conservational purposes has lack of priority outside park.
5.5.18	National Park Entrance Guard	If the provinces are good at doing their part for conservation then it works well... but there are all these different departments, and their priorities are often contradictory, or at least unfocused towards protecting the forest	Different departments with different agendas in District. Conservation has lack of priority outside park.
1.1.19	Deputy Director, CTNP	Different ministers see different priorities for the land, and so in the end we have little power to protect these zones. When the highest people in government do not see forest protection as a priority, what can we do? All decisions are made in Hanoi and the government doesn't seem to see value in the future.	Limits to Forestry department's power. Suggests top down governance is strong.

7.3 Conflicts in local interaction with the 'forbidden forest'

1.1.15	Deputy Director, CTNP	The Villages of Nam Cat Tien, Nui Tuong, Dac Lua and Phu An are all communities of ex soldiers	Settlements formed as a result of profession
1.1.15	Deputy Director, CTNP	The Ta Lai village has Chau Ma and X'Tieng People living there...settled by the government in the 80s.	Settlement formed as a forced combination of two minority groups
1.1.15	Deputy Director, CTNP	The Tay Minority from the Northern Highlands moved down in 1990-91 and are settled within the park boundary. The same decision was made for other Chau Ma and X'tieng people still living in the North Western area of Cat Loc	Although Tay minority migrated, their relationship to nature remains relatively unchanged. Concession on decision not to resettle communities has implications for conservation strategy. (cont.1.1.6)
1.3.14	Tan Phu People's Committee	Getting ethnic minorities to see the advantages of settling in one place, and moving away from shifting cultivation techniques	Link between lifestyle and fixed or fluid boundaries
2.4.8	Middle Aged Man-Ta Lai	We're not allowed to hunt or collect plants from the forest any more. In '83 the government moved us down into the southern part of the park where we were still having our old way of life, but then, when we were moved to this village, we were given houses and some farmland and not allowed to go into the forest any more.	Loss of historical territory due to zoning plans. A case of preservation of Biodiversity over preservation of Culture. Identifies a sense of exclusion
2.4.8	Middle Aged Man-Ta Lai	People miss eating 'La Nhip' and 'Doc May' leaves which we get from the forest. Sometimes people go and get some. The rangers usually turn a blind eye	Minorities still viewing the park as the resource base it always has been for them for some products; leniency from rangers, for personal use.
2.5.14	Middle Aged Man-Ta Lai	<i>On Poaching:</i> It's illegal. I suppose people still do it to sell to the 'Kinh' community	Understanding of poaching for sale to be wrong. Reasons for activity outweigh the 'wrongs'.
2.6.36	Ta Lai Family-Woman	On not feeding tourists traditional food: Some of the ingredients we would have to get from the forest	Culture that tourists are attracted to are depended on local access to resources
2.7.10	NGO- Local Level	For example, to make bamboo and rattan handicrafts to sell to tourists. Where does the material come from? They can't get it from the forest where it would have traditionally come from	Culture that tourists are attracted to are depended on local access to resources
5.4.10	Timber Merchant	Good quality hard wood. You just can't get it any more. The wooden houses around here were built from the surrounding forest, mainly in the 80's and some before.	Change in land use zoning affects the way people build & relationship to material.
1.1.6	Deputy Director, CTNP	In the dry season a route along the eastern edge of Cat Loc is used for transporting rattan...when the river is strong enough people can log trees and float them downstream. Bamboo is harvested at different times of the year for different things	Locational and seasonal links to activity
5.1.16	Woman Farmer- Near Cat Tien	When I'm not tending to the field I can go and collect bamboo shoots...labour work is too far away	Locational and resource links to activity
2.5.10	Ta Lai family- Man	<i>On farming land given by state:</i> It's too sandy. Nothing will grow properly	Locational and resource links to activity. Ownership of land
5.2.10	Elderly male farmer, Lam Truong	The government have planted rows of hardwood trees, and we farm in between them allowing the trees to grow for 50 years. We get a very good rate	Ownership of land, land security issues
5.6.2	Eco-lodge owner	It is a public-private partnership. Part of the return from visiting tourists goes directly to the conservation programme	Land security depended on contract with park. Special agreement
5.6.10	Eco-lodge owner	<i>On converting the property:</i> The building used to be an interrogation room but fell in to disrepair, and was used for poachers to squat in overnight or during the rains. They didn't know what to do with it.	Finding a solution to a land problem.
1.1.19	Deputy Director, CTNP	When people encroach on the forest and grow tree crops, the rangers can remove the crops if there has been less than one year's growth. So people hide farmed areas in the forest or plant bamboo around it, so that in two years time we cannot remove the crops and if we want the land back we have to buy it back.	Land ownership law. Negative implications for conservation of area and conflictual with its designated use.
1.2.6	Director of Tourism, VCNR	On elephants: Farmers feel threatened by them, as they can destroy their cashew plantations, and can be aggressive... the pressures on their habitat are pushing them to areas more populated by humans.	Human animal conflict. Elephants considered as pests and danger threat by farmers. Defined as elephant roaming territory.
5.2.20	Elderly male farmer, Lam Truong	On elephants: They come in and raid all the crops. They're really dangerous, they can knock over houses and kill people	Human animal conflict. Elephants considered as pests and danger threat by farmers.
5.5.12	National Park Entrance Guard	Snake bites and scorpion stings can be pretty bad too, with the proximity to the forest	Human animal conflict. Considered danger threat in relation to proximity to park

Appendix 7: Population Dynamics in relation to Cat Tien National Park

1: Demographics (local region)

Appendix no.	Interviewee	Quote	Context/ Implication
1.1.15	Deputy Director	The Villages of Nam Cat Tien, Nui Tuong, Dac Lua and Phu An are all communities of ex soldiers, from the 600 th division. They settled from the North after the war. Many have government jobs or some sort of land-based labour or agriculture	Much of the local pop does not have a long association with the area. Came with agricultural aims. Likely therefore to not have particularly high levels of conservation appreciation / links with alnd.
1.1.15	Deputy Director	The Ta Lai Village (in the south of Cat Tien) has Chau Ma and X'Tieng (local ethnic minorities) people living there. They were settled there by the government in the 80s, and we are trying to do development projects with them to better integrate them, and preserve the culture. There are other minority groups in the area. The Tay minority from the northern highlands moved down in 1990-1991 and are now settled in the Northern region of Cat Tien.	Change of cultural practices for minorities to ones of greater resource use / subsistence to ag based living; changing their relationship with nature / change in valuation of nature

2: Employment & Migration

Appendix no.	Interviewee	Quote	Context/ Implication
1.1.16	Deputy Director	They are allowed to farm areas of converted forest land as compensation for not being able to subsist on the forest any more. But this doesn't work, because the Kinh buy the land illegally from the minorities which encourages further encroachment.	illustrates economic pressures coming to bear on employment decisions of minority groups / potential values of farming not measuring up compared to selling land / increase in encroachment
1.1.16	Deputy Director	They are also paid by the Kinh people to poach, as they know the forest better. But	Economic value of local knowledge - driver to poaching
1.4.29	Park ranger	People always need more money. It's enough for me, so I suppose it must be enough for others, otherwise they wouldn't be able to take the job. It's more about having extra money, to be able to invite friends to have a drink. But of course it is also to be able to buy a bike or build a house.	Employment in the area seems to be insufficiently financially rewarding - rangers being bribed to overlook poaching / logging effective because of low pay
2.1.2	Tan Phu PC	We want to use this opportunity to collaborate with (<i>note</i> : the international NGO) to boost tourism in the district. The ethnic minorities are very poor and have no farming skills, but they have the advantage of their culture and proximity to the national park and these could be used to bring in money. We are looking for potential areas to develop the culture and tourism industry.	Official recognition of limited employment opportunities in the region and the subsequent effects of that
2.1.6	Tan Phu PC	Also it means Vietnamese minority cultures are preserved, and we are helping them to modernise away from shifting cultivation practices.	Recognition that skills base is limited within sections of the region / options for economic income are limited / if conservation is to work, there needs to be a diversification of employment opportunities
2.2.6	School girl	Some. You can get better paid jobs there. Some of the boys go to work at construction sites. If I could be a nurse I would go to Bien Hoa. They have a big hospital there.	Younger people feeling need to migrate to city areas for better employment prospects
2.2.10	School girl	I would have liked to be a doctor, but my family can't afford the fees. Nursing is too expensive too. I suppose I will be a farmer like my parents, as I work in the field when I'm not at school anyway. I asked for a job at the National Park, but they said they didn't need anyone	Limited employment opportunities in CT region
2.4.6	Middle aged man	The cashew more than the rice. I sell rice for 4,500 VND/kg compared to 14,500 VND/kg of cashew. The pigs can be too if they don't get diseased. There's currently a strain of 'Blue Ear disease' going around. No one is eating pork at the moment	Demonstrative of low values for much agriculture in the region - an example of pressures driving people to find alternative income via forest

2.4.8	Middle aged man	In '83 the government moved us down into the southern part of the park where we were still having our old way of life, but then when we were moved to this village, we were given houses and some land to farm and not allowed to go in to the forest any more.	Migration that has occurred from forest based subsistence to village
2.4.14	Middle aged man	It's illegal. I suppose people still do it, to sell to the 'Kinh'. They pay a high price for wild meat. But there's less and less in the forest now, not like 15 years ago.	Poverty making poaching an incentive
3.1.14	Environmental consultant	This is due to the fact that Dong Nai and Sai Gon are the most important economic zones in the country. Dong Nai has the largest concentration of industrial zones in the country.	Gives context as to why people migrate for work - concentration of employment opportunities in city centric areas
5.1.16	Woman farmer	I have just over a hectare of land, and with one harvest I can make 6 million VND (300 USD). Usually I can get two harvests a year, unless the flooding is very bad. When I'm not tending to the field I can go and collect bamboo shoots. I may be able to get between 20 and 30 kilograms a day, so at 3000 VND per kilogram I'm making between 60,000 and 90,000 (3- 4.5 USD) a day.	Demonstrative of low values for much agriculture in the region - an example of pressures that may drive people to find alternative income via forest
5.2.6	Elderly male farmer	over the years the soil becomes poorer with farming. A lot of soil has washed away. We have to use more fertilizer, which has become uneconomical with those crops. Tangerines and cashew will grow on poorer soil.	Demonstrative of low values for much agriculture in the region - an example of pressures that may drive people to find alternative income via forest
5.2.14	Elderly male farmer	As well as farming, I do day labour as well, as do my sons.	Demonstrative of low values for much agriculture in the region - an example of pressures that may drive people to find alternative income via forest
5.3.13	Noodle soup stall owners	It definitely gives you a foot up. Then you can get a job in an international company in the city, which is bound to pay more than anything around here.	Economic drivers for migration to city
5.4.22	Timber merchant	I think a lot of people have multiple businesses. You cannot rely just on agriculture, and it is seasonal too, so there is time to do other things. Unless people are farming a lot of land for a higher profit, agriculture becomes a fall back mechanism.	Demonstrative of low values for much agriculture in the region - an example of pressures that may drive people to find alternative income via forest
5.5.14	Ex-ranger	Maybe 130 people working for the forestry protection department for Cat Tien and Cat Loc, that's including administration and management, and another 70 people working for tourism, in the restaurants and café.	Illustrates that the park really is minor income earner for the local region - supports why the Tan Phu PC don't recognise the park as valuable
5.5.25	Ex-ranger	60-70% will go and work in the city. They would do day labour in construction or motorbike taxiing, or working in the factories, that sort of thing.	Local region lacking opportunities - drivers for migration to city
5.6.16	Lodge owner	Here everyone is poor, although some poorer than others of course, and everyone has limited skills, especially in service industries like this one where the expectation is for an international standard	illustrates lack of skills in region

4: Population Density

Appendix no.	Interviewee	Quote	Context/ Implication
1.1.19	Deputy Director	When people move from building with bamboo to brick, and roads are built for motorbikes instead of walking it becomes harder for conservation. Roads cut the path of fauna. Where ever there is electricity, people will build.	Highlights correlation between pop density, development and impact on biodiversity conservation
1.1.19	Deputy Director	This area between Cat Tien and Cat Loc has always been a focus area for us, to try and join the two forests, but it is too heavily populated. I don't think it is really feasible to do that anymore.	Highlights correlation between pop density, development and impact on biodiversity conservation
2.1.1			official recognition of pop density issues
3.3.8	Biologist	Encroachment is the most damaging and most prevalent. Increased pressure on forested land by agriculture wipes out some of the smallest species that have evolved to suit that microcosm and fragments the forests decreasing the territories of larger animals. Agriculture is by far the largest industry around here, and farmers will take the opportunity to gain more productive land if they can.	Link between pop density and threat to biodiversity

5.5.22	Ex-ranger	With three children or more, the family is not allowed to be called "gia dinh van hoa" (cultural family). The paperwork for the third child is harder to get, and it's more difficult to get government loans.	official recognition of pop density issues and response to it
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5: Culture / ethnicity / superstitions

Appendix no.	Interviewee	Quote	Context/ Implication
1.1.15	Deputy Director	The Ta Lai Village (in the south of Cat Tien) has Chau Ma and X'Tieng (local ethic minorities) people living there. They were settled there by the government in the 80s, and we are trying to do development projects with them to better integrate them, and preserve the culture. There are other minority groups in the area. The Tay minority from the northern highlands moved down in 1990-1991 and are now settled in the Northern region of Cat Tien.	Change of cultural practices for minorities to ones of greater resource use / subsistence to ag based living; changing their relationship with nature / change in valuation of nature
1.1.15	Deputy Director	There are more than 100 households there within the national park, and the decision was made that they would not be moved as long as they help to protect the forest.	Illustrates cultural assumptions and about what constitutes 'forest management' - Kinh believing it must operate under certain cultural practices / structures - obviously does not view trad subsistence living as 'management'.
1.1.16	Deputy Director	The minorities don't know how to farm. They are hungry so they have to sell the cashews too early for cheaper prices. There is a culture of drinking and so the subsidies from the government go into his pocket, and they continue to go to the forest to find resources.	illustrates overall lack of understanding / empathy toward differing cultural values in wider minority 'management' plans - identifies key issues, but still official policy not appreciating trad cultural values / management styles
2.1.2	Tan Phu PC	We want to use this opportunity to collaborate with (<i>note</i> : the international NGO) to boost tourism in the district. The ethnic minorities are very poor and have no farming skills, but they have the advantage of their culture and proximity to the national park and these could be used to bring in money. We are looking for potential areas to develop the culture and tourism industry.	illustrates gov attempts for minority groups to perceive their culture in a diff way - as a commodity - shows perception of culture as sth to 'develop'
2.2.10 & 2.2.18	School girl	I would have liked to be a doctor, but my family can't afford the fees. Nursing is too expensive too. I suppose I will be a farmer like my parents, as I work in the field when I'm not at school anyway. I asked for a job at the National Park, but they said they didn't need anyone... There are some traditions you can see in that exhibition over there. I don't pay much attention to it. You will have to ask the older people.	The program in Ta Lai is trying to work in a context where young people are now educated in Kinh schools, aspire to different goals and are less interested in cultural preservation
2.3.4	Ecotourism consultant	Probably not yet. It needs to be developed a lot more, to have more charm and to develop tours. It is quite close to Ho Chi Minh City, so there is a potential market there, but the main thing is that the people here don't yet know how to make tourism work for them.	Illustrates the importance of the preconceived ideals most 'nature' or 'culture' tourists have when it comes to implementing successful tour projects
2.4.8	Middle aged man	In '83 the government moved us down into the southern part of the park where we were still having our old way of life, but then when we were moved to this village, we were given houses and some land to farm and not allowed to go in to the forest any more.	The change to culture that has occurred for some minority groups / implied cultural assumptions of Kinh regarding what is management and how to do it
2.4.12	Middle aged man	No. Well some. People miss eating the 'la nhip' and 'doc may' leaves which we get from the forest. Sometimes people go and get some. The rangers usually turn a blind eye.	Cultural drivers for continued use of forest
2.4.16	Middle aged man	Our children go to school a long way away in government schools, so they have more contact with the "Kinh" community.	Young people are now educated in Kinh schools, aspire to different goals and are less interested in cultural preservation
2.4.22	Middle aged man	It seems like it will be good, if I can make the right changes to my house. I'm going to turn the front room into a bedroom for the guests, and I need to make a bathroom out the back. We can also move to our other house next door if we need more space.	Culture becoming a tradable good

2.7.28 & 2.7.30	NGO local level	They say it is because they are too lazy... Perhaps. Maybe they just prefer to do other things. They don't like to talk to us much; I don't know.	Disinterest in programme is perceived as laziness / lack of empathy for viewpoints that may not give economic development precedence
3.2.7	NGO global level	We know everything about them, down to their names and addresses. The corruption is at every level. So when someone high up in the government has decided rhino horn is a cure for cancer we lose 24 rhinos in Africa and the last Rhino in Cat Tien. This is new. It's not a traditional medicine, it's a superstition.	Highlights anthropecentric approach to nature - benefits for humans prioritised / superstition
3.2.13	NGO global level	To preserve a defined ecosystem does not guarantee the protection of a flagship species; in fact, we have found little correlation. When people are more aware of them, they become more desirable. There's less chance of survival.	Highlights anthropecentric approach to nature - benefits for humans prioritised
3.4.19	Int dev org rep	At the community level we've been doing education programmes to integrate ideas of biodiversity and conservation into the development plan of the community, and putting on events and games, like knowledge contests between communes.	Attempts to change perceptions of nature in wider culture
3.5.8 & 3.5.10	Environmental engineer	They don't want to be criticised in any way and maybe that's what they think I am here to do. Or maybe they don't think that I can help them, that they know everything. It is a very macho job... Yes. I think that is a big factor. Look at anyone here who has authority. They are all men, apart from the NGOs. But then we have international or city based employers. And for Vietnamese women they may respect us less than western women. Actually it's the older men more. They are more arrogant and don't like to take orders.	Illustrates how certain cultural values can interfere with an organisation's conservation targets
4.1.6 & 4.1.16	Western couple	To be honest, we're much more here for the peace and tranquillity. We'll enjoy the treks for the sake of the treks really... We're still getting used to the people here. It seems as though there are people everywhere. Even in the jungle! And they are always making a lot of noise.	An example of a "nature as tranquil" preconceptions and values of nature
4.3	Vietnamese		"Vietnamese" cultural views on silence / nature
4.416	Expat group	some of those large groups can be so noisy; I mean what are they here for? It's clearly not the peace and quiet of nature.	An example of a "nature as tranquil" preconceptions and values of nature conflicting with other cultural values
5.2.18	Elderly male	They earn less because they are weaker. Maybe 60,000 VND (3 USD).	Cultural discrimination based on gender
5.5.27	Ex-ranger	Actually it does now. Just for the last two years. But it isn't considered important really. I think it is just taught as a one off sort of lesson rather than integrated into the programme.	Although conservation issues are gaining increased recognition, still not strongly incorporated into edu system
5.6.18	Lodge owner	We have more difficulty with the men. Most of them have been pretty lazy, with a couple of exceptions. They expect to be paid more than women, regardless of their ability, and it is harder to get them to do anything. Older men refuse to take orders from younger men, and all men refuse to take orders from women. They love to delegate, but not do!	Cultural discrimination based on gender as a deterrent to wider commercial and conservation aims

Appendix 8: Local Resources and Value

Appendix no.	Interviewee	Quote	Context/ Implication
1.1.10	Deputy Director	wood that is felled is sold to anyone for furniture or building. Wild meats (from poaching) tend to be for men, maybe in their 40's and 50's, as they like to buy this when they go out with their friends to drink.	Short term values of logging and poaching - economic incentives
1.1.16	Deputy Director	All minorities receive subsidies for children to go to school and some households have a deal with the park in which they get 70-80 million VND (3600-4100 USD) a year to protect areas of forest. They are allowed to farm areas of converted forest land as compensation for not being able to subsist on the forest any more.	Short term investment by authorities to secure longer term security
1.1.19	Deputy Director	Similarly there is a high demand to grow the economy for the export of cashew and cocoa, so the forest is cleared further for agriculture.	Demonstrates high value placed on certain agricultural products in the region and thus pressure and drivers for ag production
1.1.19	Deputy Director	There is currently not enough electricity to power towns and cities, so dams are being built, destroying the ecosystems above and below them.	Water viewed as highly valuable as source of electricity generation / development given precedence over other environmental services provided by an uninhabited river
1.1.19	Deputy Director	When people encroach on the forest and grow tree crops, the rangers can remove the crops if there has been less than one year's growth. So people hide farmed areas in the forest or plant bamboo around it, so that in two years we cannot remove the crops and if we want the land back we have to buy it back.	The economic value of crops given priority over protection laws
1.2.4	Director of Tourism	There is a lot of potential to base tourism around seeing elephants, but we need to act quickly. Nine elephants were killed earlier this year, and the population is getting very small.	Value of wildlife tourism as extra revenue stream
1.2.6	Director of Tourism	The farmers feel threatened by them, as they can destroy their cashew plantations, and can be aggressive... Elephant tail hairs sell well, as people use them as wedding bands.	Short term investment in crops for farmers
1.2.8	Director of Tourism	I think it's about 300,000VND (£10) each. And each tail has a lot of hairs!	Value of wildlife trade as extra revenue stream
1.3.2	Tan Phu PC	The majority of industry is currently linked to agriculture. This includes a large production of coffee, cocoa and tangerines amongst others.	Value of local resources / economic sectors of region
1.3.6	Tan Phu PC	The main thing we focus on is trying to improve productivity. The problem is that farmers are lazy, and only want a fast turnover, which is why their productivity is low. So we help to introduce technologies such as fertilisers and machinery to help improve productivity.	Prioritising of economic goals / goods over others - push for ag to be ever more productive for collective greater good.

1.3.8 & 1.3.10		We are putting in the infrastructure to attract manufacturing; so suitable access, water facilities, electricity and so on... Probably food production and textiles. We're trying to attract more business here.	Aims for long term economic security / assessment of potential value of social capital in region
1.3.16	Tan Phu PC	This district would be 77,000 hectares, but the National Park already takes up 39,000 hectares of that. As it is protected of course that means there is no potential for development, but further to that, although it is part of the district, Tan Phu sees no income generation from the tourism industry that the park brings	No recognition of value of services from the park / aims for long term economic security
1.4.25, 1.4.27 & 1.4.29	National park rangers	Some people will let poachers off if they give them money... Maybe 70-80%... It's more about having extra money, to be able to invite friends to have a drink. But of course it is also to be able to buy a bike or build a house.	Value of wildlife trade as extra revenue stream / short term security
2.4.14	Middle aged man	I suppose people still do it (poach), to sell to the 'Kinh'. They pay a high price for wild meat. But there's less and less in the forest now, not like 15 years ago.	effectiveness of rangers; corruption with local communities; the values on resources as commodities
2.4.6	Middle aged man	I sell rice for 4,500 VND/kg compared to 14,500 VND/kg of cashew.	Values on resources / food
2.1.2	Rep of Tan Phu PC	The ethnic minorities are very poor and have no farming skills, but they have the advantage of their culture and proximity to the national park and these could be used to bring in money. We are looking for potential areas to develop the culture and tourism industry.	minorities social resources (culture) seen as a tradable commodity - local authorities see it as way to alleviate poverty
2.2.6	School girl	For all the activities, you have to have money to start it. I thought I might do the dancing, but you have to pay for the clothes yourself, and the weaving ladies sell them for 300,000 VND (£10) per set.	Highlights the important role economics plays in many local people's planning and choices - there is little capital base
2.2.10	School girl	I would have liked to be a doctor, but my family can't afford the fees. Nursing is too expensive too. I suppose I will be a farmer like my parents, as I work in the field when I'm not at school anyway.	Highlights the important role economics plays in many local people's planning and choices - there is little capital base
3.1.5	Environmental consultant	What all this shows, I think, is the pressure each provincial government is under to meet economic targets and how unrestrained economic growth takes precedence over economic growth that is more responsibly managed.	No recognition of value of services from the park / aims for long term economic security
3.1.27	Environmental consultant	As I was suggesting earlier, much greater importance is placed on meeting purely economic goals at the moment, and social and environmental issues need to be given greater attention or it will simply cost more in the long run.	No recognition of value of services from the park / aims for long term economic security
3.1.27 & 3.1.28	Environmental consultant	But I think the key ideas behind the payments for environmental services are important in improving environmental and social management in developing countries like VN... As the example of the lack of wastewater treatment facilities in the industrial zones shows, economic considerations are given greatest weight in development decisions currently. A way to balance that would hopefully be to tie economic values and considerations to environmental and social capital in the country.	Potential of PES to improve conservations

3.2.4	NGO Global Rep	But when the problem is so huge, I mean thousands of traps... It is the tragedy of the commons. If someone's neighbour is earning thousands of dollars from it, why would that person stop?	The drivers towards short term financial gain over longer term services and security
3.3.36	Biologist	Well apart from its value to science, I mean you never know what you might learn from nature, it is the regulating power of the ecosystem. That includes regulating water and nutrient cycles, flood mitigation, and acting as a carbon sink which counteracts climate change.	Long term economic values of services provided by nature
3.4.9 & 3.4.11	Int Dev Org Rep	In the mean time, the timber plantation is enriched with bamboo and cocoa etc. for the farmers to be able to make immediate profit. However it hasn't been successful on a large scale.... They wanted farmers only to clear the bushes and not trees, but they tended to burn everything down. It was too difficult for them to do.	Short term values of time, effort and \$ being prioritised over longer term gains
3.4.19, 3.3.21 & 3.4.23	Int Dev Org Rep	We've also been explaining the idea of PES to targeted people... Basically, it is companies, say in Ho Chi Minh City who can be positively affected by conservation in Lam Dong pay to protect the forest; so that would be tour companies who would see value in sending their customers to forests, or water companies who would see value in the purification of water in the river by forests. So the companies pay for the protection of forests that are directly beneficial to them, and that money goes to the province who transfers money to the forest owners. It is all within a commercial contract. So far the tests show it to be successful... It's all done by economic values. We hired experts to calculate the value of the forest, using something complicated with a k coefficient. That formula shows the buyer's value.	The use of monetary values to try to secure long term biodiversity security
3.4.24	Int Dev Org Rep		
3.4.36	Int Dev Org Rep	My bosses are always on the phone to the donors, which seems to be quite stressful. It is problematic to try to prove success in projects. Especially when they are so short. How can you measure the impact it has in that time?	Short term values (mainly \$) being prioritised over longer term values
3.5.12	Environmental engineer	There is a conflict of interest. It is not enough to expect people to do the job well as a contribution to a larger cause. They (park rangers) get a bonus for the number of traps collected, but that is the only real incentive.	Lack of investment in long term park security / example of short term investment for longer term security
3.5.25	Environmental engineer	There is a problem when money from the government is set aside to build housing for rangers, but actually it goes on building rooms to accommodate tourists. So tourism is not making profit for the park.	Lack of appreciation for value of social capital in securing long term conservation
4.2.10 & 4.2.12	Japanese group	Yes; we came straight from the airport to here. We will probably go to Saigon tomorrow though for one day of shopping, to keep the ladies happy! I have come to Vietnam for business before, but it is better to come for bird watching; to have time to see nature... It is very interesting wildlife. And photography too. To do both well is very difficult. You can spend a life time doing it.	Economic value placed on personal experience with nature and park

4.5.7	Expat group	I've been here before by myself, before the lodge was here. It's definitely a huge improvement on what was available then. I really like bird watching, so it was great to go for that last time. This time it's just really nice to come up with friends, relax and have a good time.	Economic value placed on personal experience with nature and park
5.2.10	Eldery male farmer	The government have planted these rows of hard wood trees, and we farm in between them, allowing the trees to grow for fifty years. That way we get a very good rate.	Attempts to combine short term individual values with longer term societal / nature values
5.4.4 & 5.4.10	Timber merchant	My best business is reclaiming the timbers from old houses and reconstructing them for clients. There's beginning to be more of a demand for them now... The wooden houses around here were built from the surrounding forest, mainly in the 80's and some before. Some of the columns are big round posts, which have aged and darkened over time. They are very stable and strong, and will not warp anymore, and the wealthy people see their value. New wood, although it isn't as good, we have to import now. So	Value of tropical hardwoods - now in demand as much of it is protected
5.4.18	Timber merchant	Yes, I wouldn't say it is particularly difficult for people to get illegal logs into the timber trading routes. Essentially, once it has been mixed in with the legal stuff it's very difficult for the authorities to track in the country	Value of tropical hardwoods - now in demand as much of it is protected
5.5.14	Ex-ranger	Maybe 130 people working for the forestry protection department for Cat Tien and Cat Loc, that's including administration and management, and another 70 people working for tourism, in the restaurants and café.	Legal economic values provided by the park
5.5.24	Ex-ranger	Older people stay in the countryside, looking after their cashew fields, and probably the rest, say 60-70% will go and work in the city. They would do day labour in construction or motorbike taxiing, or working in the factories, that sort of thing.	Choices being made for short and longer term economic security
5.6.2	Lodge owner	The concept is to use tourism to give a commercial value to the Park. So we've built low impact, low density accommodation that targets a mid to high range international tourist market.	Placing an economic value on conservation to attempt to improve protection / importance of private sector to conservation
5.6.5	Lodge owner	But also it is managed as a commercial enterprise, which means there has to be more of a focus on customer service, efficiency and meeting the demands of the markets. It is only successful if we are self-sufficient and cover our costs. Unlike the government run operation we are not subsidised.	Need for commercial priorities
5.6.12	Lodge owner	The best staff are the ones who are keen and interested in investing themselves in to the business, rather than necessarily some of those who have better hospitality or English skills, but don't value the business in the longer term.	Need to appreciate wider goals and values of commercial activities - need for an 'environmental consciousness'
5.6.14	Lodge owner	Here everyone is poor, although some poorer than others of course, and everyone has limited skills,	Good general context for some of the drivers for the different valuations of local resources
5.6.24	Lodge owner	The reason we are here is because we love nature. I can't stand to be in the city long any more. Especially when you can be out here... But I think a lot of the people who come here are attracted to the same things as us.	Need to appreciate wider goals and values of commercial activities - need for an 'environmental consciousness'

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