

CHAPTER 1

Introduction

Writing a thesis is an art of telling a story, and in order to write a good story, the author need to have a good introduction. For me, writing itself is not an easy process, especially when I have to write a whole thesis using a second language. I normally find it difficult to begin the introduction, but after a fair amount of both formal and informal writing, I found a solution that comes from one of my hobbies - traveling. As a backpacker, I normally do not plan every detail carefully before departure because I want to discover the place by observing and interacting with the local people. However, I know at least which places I will go and what aspect of things I want to explore. Likewise, writing itself is also a journey in which the writer needs to know which aspects of things they want to study and where they will do it. Therefore, this chapter will introduce the reason why I chose the topic of human-nature interaction to be my master thesis as well as the background and the research problem of my thesis, followed by research questions, research objectives, and the way I collect and analyze the data.

1.1 Background and Research Problem

“Our local environmental knowledge does not only show in the way we interact with our environment but also the way our society was constructed. That is why it is unique”- Former Chairman of QPPC

When I was a child, I lived in a small village with immense rice fields and traditional home gardens, about seven kilometers away from Hue city center. One day as usual, I followed my grandfather to his social gathering with his friends, listening to their stories about how to manage a farm and control diseases. When we returned home, I asked my grandfather to help me set up my own small garden in order to earn money for my own hobbies at that time: candy and ice cream. I took care of the vegetables and sold them in

the village market. My tiny business was going quite well until it was totally destroyed by a tremendous flood. I lost my farm, but all of the other villagers lost their main livelihood and also their family members. Even my family almost died, but we were saved when the water level receded on the third day of the flood. After the flood, I felt the boundary between life and death very clearly. It made me think more about the relationship between humans and nature and the impact human beings have. In the past the villagers could normally predict natural disasters, but that time the tremendous flood was quite abnormal and unpredictable. Although the flood destroyed everything, the villagers still tried to help each other to recover their livelihood using their local knowledge. During the reconstruction, I could feel the strong relationships among the villagers and the power of their local knowledge.

And then, under the development process, many things changed in our village. It was transformed into a Ward belonging to the city. Quality of life was better, income was higher, and more city people come to our area to live, but the relationship among the people seemed to be worse. Some villagers, the old generation, still tried to maintain their traditional landscape, culture and local knowledge, whereas the others had begun following modernization. That problem raised me a question about how to develop an area but also preserve the local knowledge during its development. Keeping this in mind, I entered Hue University of Forestry and Agriculture.

As an undergraduate forestry student, I had opportunities to participate in a variety of projects related to natural resources management in upland and coastal areas in the Central Coast of Vietnam. I realized that forest management in mountainous areas is different from coastal area because of not only the geography, history or people but also the local customs. The way highlanders and lowlanders use their local knowledge to manage their resources impressed me. However, they still did not know how to combine their own knowledge with scientific knowledge for a better solution under the era of modernization. Therefore, my undergraduate thesis concentrated on the linkages between forest cover change and shifting cultivation practices to demonstrate that shifting cultivation is not only a reason for deforestation but also a traditional practice of indigenous people and that decision makers should take this problem into account. Now, as a graduate student in the development field, I want to examine the issue of how

political, historical, and social context link with local knowledge in the coastal area by using a case study of mangrove restoration in the Central Coast of Vietnam.

Mangrove forests are ecosystems that occur along most tropical and subtropical coastlines and are considered to be one of the most important ecological and socio-economical sources for coastal communities (Alongi, 2014). Mangrove forests not only provide habitats for many marine species and act as a natural barrier to protect local villages from natural disasters (Dahdouh-Guebas and Koedam, 2008), they are also a source of income for local people, such as firewood, medicine, fish, and crabs (Alongi, 2014). In addition, it is believed that mangrove ecosystems play a crucial role for both climate change adaptation and mitigation. Although mangroves occupy only a small percentage of the global coastal area, they have high capabilities for carbon sinks and carbon sequestration (Hongxiao Liu et al., 2014). Their contribution to carbon sequestration is now interpreted as a tool for conservation and a way to help reduce greenhouse gas emissions (Alongi, 2014).

However, the fact is that mangrove forests are one of the ecosystems that are endangered and are being degraded dramatically (Valiela et al., 2001; Nguyen Tai Tue et al., 2014). Mangrove forests are being destroyed and degraded by unsustainable harvesting and unsustainable coastal development projects (Dahdouh-Guebas and Koedam, 2008) as well as natural disasters and climate change (FAO, 2007). In Africa, Asia and America, the total area of mangrove forests have been reduced by around 35% from 1980 to 2000 (Valiela et al., 2001; Nguyen Tai Tue et al., 2014), and the decreasing rate has been continuing at 1-2% per year (FAO, 2007; Nguyen Tai Tue et al., 2014). Southeast Asia, one of the most diversified and dense regions in the world (Ellison, 2009) with more than 33.5 % of global mangrove forest, has been witnessing the dramatic decrease of mangrove areas because of both natural and anthropocentric disturbances (ITTO, 2012). Climate change is also one of the main reasons of mangrove ecosystem degradation (Duke et al., 2007).

Therefore, nowadays, many innovations for mangrove restoration and reforestation programs have been conducted. Although these projects have been conducted in many countries, it could be said that they have not been effectively implemented even though some good results have been noted. According to Biswa et al., (2009), ecological

restoration of mangroves is the most challenging and difficult because of the dynamic mangrove ecosystem and the effect of natural and anthropocentric disturbances. Furthermore, the majority of the population in Southeast Asian coastal region is poor and vulnerable people who have their livelihood based mainly on mangroves (Iftekhar and Islam, 2004). The challenge here is to come up with new innovations which can be applied not only on a national scale but can also provide frameworks which can be adapted to the local and customary realities of a specific area.

Vietnam is a Southeast Asian country where the forests cover was reported to be 13,798,000 hectare of the total land area of 32,931,000 hectare in 2010, a significant increase from 1990 when the forest cover was only 9,363,000 hectare (FAO, 2010). This increase in forest area was the result of various national reforestation efforts and international programs. Despite this progress, Vietnam's remaining natural forests and mangrove forests have decreased dramatically since the 1960s (Hawkins et al., 2010). Over the past 50 years, more than 80% of mangrove areas have been lost, which has drawn a lot of concern from scientists in terms of environmental and social aspects. More than 70% of mangrove forests in Vietnam are classified as protected forests (Hawkins et al., 2010), in which local people cannot have access to these forests.

In Vietnam, mangrove forests are managed by both the Ministry of Agriculture and Rural Development (MARD) and the Ministry of Natural Resources and Environment (MONRE). While MARD is in charge of forest management in general, MONRE is responsible for land management, including forest land. Before Economic Reform (Doi Moi) in 1986, all the land was public land and the forests were under the control of the government. Under the Doi Moi policy, the government issued the Land Law 1987 and revised it several times in 1993, 2003, 2013. These revisions contributed to the flexibility of land management in general. Forest land can be distributed to Forest Management Boards, Commune People's Committees, private companies, and households as well as to individuals for planting and protection. Although Vietnam has been through land policy reform regimes during the past five decades, land policy has not been implemented in a smooth process because of conflicts among stakeholders, for example, between the state and the peasantry (Kerkvliet, 2005; Borrás, 2008). The most crucial laws have been amended to govern forest use and management. They are the

Land Law, which was first amended in 1987 and revised again in 1993, 2003, and 2013, and the Forest Protection and Development Law in 1991 and 2004.

Realizing the important role of forests in general and mangrove forests specifically, the Vietnamese government has formulated various national programs, such as Program 327 (1992-1998) and Program 661 (1998-2010), and adopted some international innovations, such as REDD (Reducing Emissions from Deforestation and Forest Degradation) and PES (Payment for Ecosystem Service), to improve the Vietnam forest situation. Although there are efforts among stakeholders for reforestation and forest conservation, the results have been limited.

In Vietnam, there are some areas that mangrove restoration has been conducted under the auspice of state projects and with the cooperation between state and international organizations since the 1980s. The fact is that the majority of mangrove restoration projects are based in the Red River Delta in Northern Vietnam and in the Mekong Delta in Southern Vietnam, while few projects have been conducted in the Central Coast of Vietnam. Because of its own geographical and historical characteristics, mangrove restoration in the Central Coast has been found difficult to implement. However, this area is the most vulnerable under climate change and is one of the poorest areas in Vietnam. Therefore mangrove restoration in the Central Coast of Vietnam should be taken into account.

One more problem is that all of these projects are under the control of the Ministry of Agriculture and Rural Development (MARD) as well as the Land Law and the Forest Protection and Development Law. However, the fact is that while MARD is in charge of mangrove management, the Ministry of Natural Resources and Environment (MONRE) is responsible for land management, including wetlands. It means:

MARD has jurisdiction over the trees in mangrove forests, while Ministry of Natural resources and Environment (MONRE) has jurisdiction over the land itself. (Hawkins et al., 2010: 14).

In addition, aquaculture and fisheries are under the management of MARD, while MONRE regulates geology, mining and water. The question here is “does forest include only trees or land or both of them?”

As mentioned above, MARD is in charge of forest management in Vietnam. Therefore, MARD has capacity to issue forest protection and development plans as well as forest management in general. MARD has local branches office at the provincial and District levels known as Provincial Department of Forestry and District Department of Forestry. However, there is no branch at the Commune level. At this level, the Commune People's Committee is in charge of forests in general, normally supported by the District-based Department of Forestry. In addition, although the responsibility of MONRE is different than that of MARD, their structures are the same. MONRE is in charge of land management, land use mapping, and land titles. The provincial and District MONRE branches manage this work at their levels and support the Commune People's Committee in exercising state management of land.

All in all, it can be said that in mangrove management, the roles of these two ministries are overlapping, which creates a big space for confusion about law and implementation (Hawkins et al., 2010). This overlapping of responsibilities leads to conflict in tenure security, which affects local participation in mangrove restoration. In addition, local people have no voice to the government: All they can do is hope for the Commune People's Committee to transfer their opinions to the Central government. However, the problems have not yet been resolved.

Thus, in this thesis, the problem as it refers to the centralization in decentralization of natural resource management, the ambiguity of understanding about environmental governance, and the unclear role of local knowledge and scientific knowledge particularly in mangrove restoration in the Central Coast of Vietnam will be addressed. Firstly, local people are often left out of decision-making processes in forest restoration and are only asked to participate once implementation has begun. Secondly, the mangrove restoration policy have not really stated clearly about livelihood concerns along with restoration. Thirdly, there is a link between the local people's and culture and the social-political practices (Truong and Orlando, 2010). However, under current reforestation projects, this kind of relationship has not been recognized by the government. As a result, local people in general are not interested in participating in mangrove restoration. Lastly, the combination of scientific knowledge and local knowledge is still limited. It is believed that each local specific area has its own

knowledge and cultural systems. Scientific knowledge can provide the stake-of-knowledge for local villagers to deal with the change of environment and weather, when local knowledge can give inside perspective about local context. Therefore, in this paper I would like to clarify the controversies arising due to the mangrove restoration policy in Vietnam. Mangrove forests are not only important in its ecological role, but also highly important to local communities. This study aims to examine why in the case of mangrove restoration, the local knowledge and scientific knowledge are not considered in the balance role and what is the potential solution for it?

1.2 Research Questions

1.2.1 To what extent do local villagers participate in mangrove restoration projects, and how does decentralization work in these projects?

1.2.2 How have different stakeholders adopted mangrove restoration governance, and what kind of knowledge has been used in these projects?

1.2.3 In what ways do local villagers, local government and the state use local knowledge and scientific knowledge as environmental knowledge and coping strategies? What strategies are in place to promote an output of active participation by local people in mangrove restoration projects?

1.3 Research Objectives

The general objective of the study is to identify how local villagers participate in the mangrove restoration projects, how political, historical, ecological and social aspects link together in these kinds of projects, and how local knowledge and scientific knowledge combine and challenge each other in mangrove restoration. In order to make the objectives clearer, my specific objectives are as follows:

1.3.1 To study the level of participation of local villagers, particularly in decision-making and the implementation process of mangrove restoration projects as well as the way power has been transferred through different levels of administration.

1.3.2 To examine the level of management, understanding and implementation about mangrove restoration policy between central government, local government,

and local villagers as well as what form of knowledge has been used in the project.

1.3.3 To study the practices of local knowledge and scientific knowledge in reality as a form of environmental knowledge and coping strategies. It also examines the level of interaction and the capacity of combining scientific knowledge and local knowledge in mangrove restoration among local villagers, local government, and the state for an effective outcome for all stakeholders.

1.4 Operational Definitions

Mangrove restoration is the acts of regenerating mangrove ecosystems that used to exist in a specific area with the purpose of recovering that ecosystem.

Politics, here, is environmental politics concerned about the relationship between humans and their environment. Specifically, this term refers to the political processes associated with human-nature interactions in which power dimensions are taken into account. The terms ‘politics’ here is also used to understand the interactions among actors –here are state, local government, and local villagers in mangrove restoration projects . It is concerns about the operations of mangrove restoration policy, the transfer of policy to local government, and the way local villagers react to the policy were addressed. Politics here also refers to politics of scale in which power is transferred depending on how different actors constrain and shift the scale and how politics shape the scale-making process.

Local knowledge is one kind of knowledge that is produced by local people in their specific area. Local knowledge cannot be learned or accumulated in days or months. It takes years to actually accumulate the knowledge in the specific area through ongoing experiences. Local knowledge can include the way local people manage their land, resources, and other kinds of capital. It also includes their beliefs and customs.

Scientific knowledge is one kind of knowledge that is accumulated by scientific study, which is done by scientists or scholars in the field.

Livelihood strategies are the way people act to achieve their livelihood goals. These kinds of strategies can consist of the way they produce and reproduce their products as well as create new tools to adapt to the changes of both internal and external factors.

1.5 Research Methods

1.5.1 Research Site Selection

My research site is located in Quang Phong Ward, Quang Trach District, Quang Binh Province. Although I have never been to the research site before my pre-fieldwork for this thesis and previous fieldwork, I accumulated several research documentaries related to mangrove ecosystems and mangrove restoration in the area. During my undergraduate studies, one of my senior lab members' research was on the Sustainable Management of Mangrove Ecosystem in Gianh River Mouth of Quang Binh Province in 2010. As juniors who were learning by practicing, my fellows and I helped him with some parts of the research, such as measuring and calculating the growth of plant samples, for example, Đước (*Rhizophora stylosa*), Vẹt dù (*Bruguiera gymmorhiza*), Bần ổi (*Sonneratia ovata*), Mắm ổi (*Avicenia marina*), and Sú (*Aegiceras corniculatum*). During that period of time, we had really good conversations about the mangrove ecosystem in Quang Trach District, Quang Binh Province, as well as mangroves in general. As a second-year student who was excited to learn new knowledge in the field, sustainable mangrove ecosystems in river mouths was such an interesting topic to do research on. In combination with several visits to mangroves in the Central Coast of Vietnam and some reading, our lab did a student research on *applying Geographic Information System (GIS) and Remote Sensing (RS) to build up watershed management system and evaluate forest cover change for a sustainable management in Huong River, Thua Thien Hue Province* which was a purely natural science research studies. This time, as a graduate student in the field of Development, I decided to do social research with some minor support from natural science approach on the topic of mangrove restoration in Quang Trach District.

The research site was visited twice, first in June, 2014, and then again from December, 2014, to January, 2015. The first visit was conducted during my summer break between two academic years, and the second one was my main fieldwork. Before the first, I did documentary research about mangrove restoration in Vietnam in general and in the Central Coast of Vietnam specifically. I also read my senior thesis again in order to have a general picture about Quang Trach and its mangrove before entering the area. When I first arrived in Quang Trach in June 2014, I decided to drive to the mangrove area in each Commune to observe and talk with local people. After getting some basic information about the area, I tried to make connections in order to enter the areas officially. Fortunately, my senior lab member introduced me to one of his friends who works as an officer in the District Department of Agricultural and Rural Development (DDARD). Thanks to the officer's introduction, I could meet the Vice Director of District Department of Forest Protection (DDFP), who later wrote a letter of recommendation for me to enter my research sites. Without this letter, I could not enter the field, interview people, or collect secondary data from the Local People Committee. This department is in charge of protected forest and mangrove restoration in the entire District, so I could also collect planning and monitoring reports on mangrove restoration projects.

In combination with my first observation and my pre-proposal in conceptualization class in the second semester, I decided to choose Quang Phong Ward as my research site. At the very first stage of the study, I went to the Quang Phong People Committee (QPPC) to introduce myself and what I intended to do in their area. After meeting with the Chair of QPCC, I was introduced to the representative of Quang Phong Farmer Association (QPFA) who is in charge of mangrove restoration projects. Unfortunately, he was not in the office at that time. While waiting at Quang Phong Secretary Office, I had a conversation with the Secretary about my topic, and he introduced me to the mangrove forest keeper who was currently at his shrimp farm. Without hesitation, I went to the shrimp farm and met the forest keeper with the help of some local villagers for directions. I had an

informal group discussion with him and his fellows who are also involved in mangrove restoration in Quang Phong. After this discussion, I was introduced to the village headman of villages 6, 7, and 8.

The next day, I collected a statistical report, demographic report, agricultural reports as well as the annual report from QPPC. I also interviewed with local villagers who are involved in mangrove restoration projects. During the interviews, some villagers agreed to answer my questions while others declined because there is no evidence that I was a student or of what I was going to do in their village. Therefore, I came back to the village headman's house and asked for his help. He had to introduce me to all of my informants in order to get their trust. After that, my interviews went smoothly for a while. This first data collection phase helped me get a general picture about what was happening in the area and what had been going on in the last five decades in what was one of the frontier areas during America-Vietnam War.

Back from the field, I developed my thesis proposal and defended it successfully in November, 2014. At the defense, the thesis committee suggested me that I should narrow down my focus study site to only one village in order to dig deeper into the research problem according to social science perspectives. Thanks to my pre-fieldwork in June in Quang Phong Ward, I decided to choose village 6 in Quang Phong Ward as my study site because it fit into my study's objectives the best and the mangrove restoration projects had been conducted in this village both in the past and present day by both local people and the government.

My research area is located in village 6, Quang Phong Ward, Quang Binh Province. There are 159 households in this village. More than 60% of their income comes from agriculture and aquaculture sectors, which includes farmers and shrimp farming. Some villagers work in both agriculture and aquaculture fields, while some just work in one field for their livelihood. 100% of households there hold land for their residence and/or cultivation.

The minority of villagers there work in other sectors, such as in the service industry or as migrant industrial workers.

Quang Phong Ward is a coastal area belonging to Ba Don Town, Quang Binh Province in the Central Coast of Vietnam. The region has been affected by frequent natural disasters frequently every year. This Ward is a small area located along the low downstream area of the Gianh watershed, which is 10.2 kilometers away from the coast. The mangrove forest here plays an important role not only in environmental, economic, and social aspects but also in a cultural aspect, and it is one of the remaining forests in the Central Coast of Vietnam. Quang Phong borders Ba Don Town to the East, Quang Thanh Ward to the West, Quang Long and Quang Phuong Ward to the North, and Quang Loc, Quang Hai and Gianh rivers to the South. The total natural area of this Ward is 470.04 hectares, in which agriculture land makes up 240.00 ha, and non-agriculture land occupies 230.04 ha.

The total population of this Ward is 5483, of which 58% are farmers and fishers, followed by 12 % are industrial workers, and 30% are in the service industry. People in this area are Kinh people- the ethnic majority of Vietnam. They are mostly original people who have lived in this area for many generations. Their traditional livelihood heavily depends on farming and fishing, and the mangrove forest has been critical in this during the past. Therefore, they have a lot of experience and knowledge in terms of using and managing the mangrove forest. In the past, this area was one of the pilots for mangrove reforestation in the Central Coast of Vietnam. In 1978, the local government and local villagers organized and used their local knowledge for a reforestation activity with the target of 8 ha of mangrove, and this activity has been kept going year after year. However, under the impact of natural disasters, the mangrove area has been decreasing dramatically. Therefore, the government had started another mangrove reforestation project from 2009-2012 but the outcome was limited.

At the present, the local villagers' livelihood has been changing due to the impact of development. Some new forms of livelihood have been found, such as industrial shrimp farming, working abroad, small business, and other service jobs. Most local villagers do not rely on this mangrove forest for their livelihood. They just look at the mangrove forest as a natural disaster reduction barrier for their village. In the past, local villagers actively participated in the project as one of their community activities. However, recently they have participated in the project as a responsibility as a Vietnamese citizen. They want to get money from the project, and after the project ended and there was no more money, not many people cared about the forest.

In addition, the fact is that climate change has been causing some serious problems in Vietnam. Realizing the important role of mangrove forests to protect coastal areas from the impact of climate change, the government has adopted and set up mangrove restoration programs. Quang Phong is one of the areas that have been chosen by the government. While the government views the reforestation project as an ecological service tool on a national scale, local villagers struggle for their daily income in their local context.

That is the reason why I chose this area to be my study site, as it represents an ideal site to observe the government's reforestation policy and the local community involvement through a historical timeline before and after Doi Moi policy in 1986. The first mangrove restoration project was conducted in 1978 before Doi Moi and the later ones were conducted after Doi Moi. Through period of time, decentralization seems to have not worked in the same way, and scientific knowledge has a key role for reforestation. Local environmental knowledge is going to disappear because of not only the policy but also the local peoples' awareness of the mangrove forest. This problem needs to be taken into account. One reason for choosing village 6 as my research site is the limit of time and budget. Another reason for choosing this village is because I would like to consider villages which are both directly and indirectly linked to the mangroves. Deeply understanding

this village will help me clarify the topic of the politics of mangrove restoration not only here but also in the Central Coast of Vietnam.

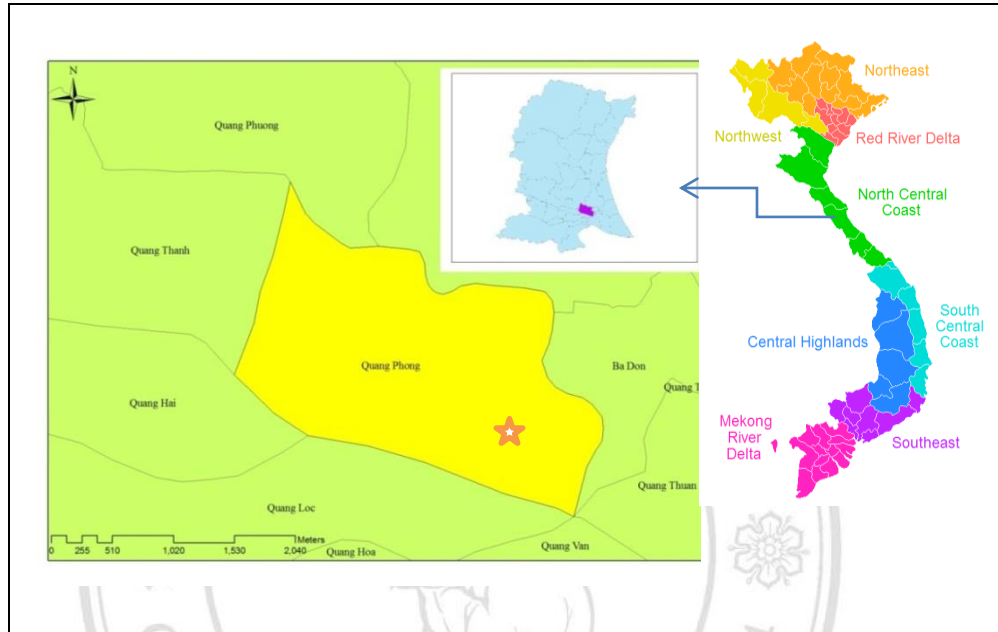


Figure 1.1 Research site in Quang Binh Province, Vietnam

1.5.2 Unit and level of analysis

My study unit of analysis is based on the individual, groups, and social organizations. Each local villager plays an important part in community contribution of local knowledge as well as participation in community activities. Each of them can participate or contribute their own knowledge as well as raise their voice during the decision-making or implementation processes. In addition, each person has their own job and interests, so that they have different perspectives on mangrove restoration projects specifically. It means each group views the forest in a different aspect. Moreover, the mangrove restoration projects do not only operate within the individual or group relations; it also includes the relationship among social organizations. This thesis concentrates only three actors, including the state, local government, and local villagers, and the way they interact with each other in mangrove restoration projects. It helps take a glance at the way

local people use their local knowledge in terms of mangrove usage and how environmental knowledge is used in the study site. Discussions with local villagers and local government representatives give a broad picture about the way they think about mangrove restoration. Lastly, the analysis will concentrate on the actions and interactions among stakeholders in mangrove restoration.

The level of analysis is based on both local and national levels, but this thesis mainly focuses on the local group level and differentiates each group with different interests to mangrove restoration projects. The case is then shifted to a higher level in order to know how different actors perceive the policy and how it works in different scales. In particular, in the context of the Central Coast of Vietnam with comparisons made with the national, regional, and global levels. The purpose of this study is to understand the politics of mangrove restoration in Vietnam, how it works in the central government and how it plays out on the ground, and how that kind of policy is adopted by the government in the regional and global context.

1.5.3 Data collection methods

The data collection method is a qualitative in nature with a minor support from exploratory survey. Key informant interview, group discussion, participation observation and field notes were employed for collecting the qualitative data, while the exploratory survey was used before for the purpose of understanding basic information of the field before digging deeper to the topic of research.

At first, secondary data was collected from the previous literature related to the research topic, such as books, chapters in books, journal articles, and reports from NGOs, the local government and the central government, and data from the internet, such as satellite image and some online reports. This data helped me to get a general understanding about geography, physical aspects, and some basic information of the research site. The secondary data collection was started at different administrative levels. Hue University of

Agricultural and Forestry was the first place for my documentary research. Some theses and research reports from my former faculty were collected. Besides that, some conversations with experienced researchers on related topics of mangrove restoration in general and in some Provinces in the Central Coast of Vietnam were helpful in getting information and experience about the research topic. The use of these resources allowed the development of a theoretical approach that guided the methods in the field. At DDFP, restoration planning and final reports of restoration projects were collected. Socio-economic reports, agricultural reports, statistical reports, and annual reports from QPPC and DDARD were also collected. This data in combination with Land Law and Forestry Policy helped develop a deep understanding about what is going in the study site.

Then, an exploratory survey was applied to obtain demographic information about the study site in general as well as some basic information about local villagers' perception about mangrove restoration activities. The purpose of this survey was to triangulate the secondary data from the local government and get a general picture about the village in terms of its culture, social structure, and how mangrove restoration plays out in the study site. It helps the researcher to have a good background for further qualitative data collection. Additionally, this data helped me to classify the interviewees clearer and have an initial understanding about the research site in terms of livelihood, land use, customs, local knowledge, and people's opinions about mangrove restoration in general. In the study site, 53 households out of 159 households (33.3 %) were selected using systematic random sampling that selected one in three household randomly. Two research assistants helped collect this data over five days. After each day, there was a meeting in order to discuss any problems the research assistants faced and try to find ways to solve the problems.

After that, key informant interviews, group discussions, participation observation, and field notes were used to dig deeper into the topic of research.

The key informant interviewees include in a Farmer Association representative, a Chairman of QPPC, a former QTFAE officer, a former Chairman of QPPC, a DDFP officer, a MONRE District officer, and a village headman. The reasons for choosing those key informants are as follows: The Chairman of Local People Committee was the local government officer who was involved in the new mangrove restoration projects from 2009-2013. The former Chairman of the Local People Committee was a veteran involved in the first mangrove restoration project in 1978. The DDFP officer and the MONRE District officer provided information about national, provincial, and local policies on mangrove management and their thoughts on the decentralization in mangrove restoration policy. The village headman provided information at a grassroots level. In addition, the former QTFAE officer and Farmers Association representative were two interesting key informants who provided information on both the local officer and local villager perspectives about mangrove restoration in the past and at the present. The village headman was my first key informant and also my gate keeper. He introduced me to the Farmer Association Representative. The Chairman of QPPC was interviewed in the QPPC office. Thanks to this interview, I got the information of the former Chairman of QPPC and I came to his house for interview. After that, the former Chairman of QPPC introduced me to the former QTFAE officer who is responsible for the mangrove restoration project in 1978. The DDFP officer was introduced to me by my senior laboratory member. He is the Vice-Director of DDFP who wrote the letter of recommendation for me to enter to the field. Thanks to his connection, I had a chance to meet a MONRE District officer for interviewing. Actually, at the very first time, I did not intend to interview the former QTFAE officer who played really important role in the project 1978 because I thought she had passed away. However, it was fortuitous that through my interview with the Chairman of QPPC, I found out this new key informant. The information was triangulated through those key informants by using open-ended questions.

The key informant interview was conducted with the purpose of understand the special knowledge from the special persons who were willing to share to the researcher about the topic of interests. This method was conducted throughout my field work in order to understand deeper the research topic. It plays as a core tool in my data collection method. Interviews with key person in mangrove restoration projects were used to have a better picture of what was occurring in the village from the past to the present. By using this tool, information was collected from a wide range of people who had different perspectives in terms of the mangrove forest and mangrove restoration. It provided a particular knowledge and understanding as well as insight into the nature of the problem. I started to talk with some people I met in my pre fieldwork first, and then during the time of interviewing, I got more information about who was involved in the kinds of projects and who can provide me with useful information. Interviews included both formal and informal interviews, which plays as really important role to help me obtain information naturally. Cross checking was also used in these interviews in order to get exact information from different perspectives.

Additionally, 12 semi-structured interviews was conducted for giving an opportunity for the villagers in different age, gender, and groups of interests to raise their viewpoint to the topic of mangrove restoration activities and policy in the area. The perception of mangrove restoration in the area varied among generations and social status were also addressed. Interviewees included the older generation who have experienced the changes of the mangrove forest and mangrove reforestation in the study site and the younger generations who are knowledgeable about mangrove restoration. They are farmers, fishers, and others workers.

In the middle of the fieldwork, a group discussion was conducted to investigate the village history, mangrove restoration history, seasonal calendar, livelihood systems, and land use map of the village. Five people were selected to have a discussion according to prepared questions in order to gather their information on the research questions. Firstly, the purpose of

the discussion and what was going to occur during the discussion was introduced, and then they were given paper and a pen for their working time. After that, they were showed a map as well as information previously collected in order to receive feedback from them. This method helped collect the essential information quickly and accurately from local villagers.

And of course throughout of the fieldwork, participant observation and field notes were always conducted in order to actually observe the things local people did and get the meaning of why they did it. The participant observation method was very important for data collection in order to gather information from local people in terms of forest management, mangrove reforestation, and coastal risk reduction and so on. Besides gathering information from individuals, the research needed to have information from the group of interests. Participation in everyday activities with key people gained a deeper understanding about the information. I tried to understand the local practices as well as their culture, beliefs, and social norms by observing and participating in some of their activities. For example, I made a fish catching net with an interviewee and during that time it brought out stories from him, giving me a deeper understanding about the net, how it is made, where it comes from, and why local people use it. Through this participation, I also understood the way local people connect with their history and their nature. Another example was when I joined catching shrimp and fish at night with another interviewee. This is called “đi te”. Joining in everyday practices with the local people helped me understand more clearly their situation and what their connection with the nature and their spiritual thinking is. During the fieldtrip, I also had a chance to observe and participate in one of the villager’s biggest events, called Christmas, on Dec 24 and 25. During these two days, all of the local villagers gave themselves a holiday; they went to the church to show their respect to their religion and partied at home. Participating in this activity helped me have a better relationship with villagers as well as understand more of their culture.

After the data collection process, I have accumulated some experiences for my future research. Firstly, doing qualitative research is not an easy task for a researcher who is still a beginner in this research method. Being a qualitative researcher is not only always following the theory but also requires opening the eyes and using the five senses to see the reality in the field. Researchers try to understand the field and also act as a research tool to explore the problem. The researcher should remain calm and triangulate the exact data their research requires because, in some cases, the researcher can feel ambiguous about the data due to the complexity of the information they received from different interviewees. Therefore, playing the role as a researcher should be both objective and subjective when entering the field.

1.5.4 Data analysis

My study is an inductive case study. Therefore, the role of researcher is not only a person who conducts the research but also a tool for that research. All of the data was analyzed, explained and debated based on the main questions and using the conceptual framework.

Exploratory data was processed and analyzed by using Excel software, Geographic Information System (GIS) and Remote Sensing (RS) was used to analyze basic secondary data, and then qualitative data was analyzed by memos, and transcript, and open coding into category following conceptual framework.

1.6 Thesis organization

There are six chapters in this thesis. Chapter I give a general introduction about my study. This chapter provides a background and the objectives of the study as well as the methods I used to collect and analyze data.

Chapter II provides theoretical background and related studies. It includes four main concepts which are (1) Decentralization of Natural Resources Management; (2) Environmentality: a Part of Environmental Governance; (3) Local Knowledge in Response to Environmental Governance; and (4) The Politics of Scale.

The context and historical background of the study site will be presented in Chapter III. The first section is the geographical and socio-economic conditions of the village. The second section describes and compares the basic information about the research site, such as demographic characteristic and the village structure.

Chapter IV considers mangrove restoration policy as decentralization of forest management. This chapter first reviews the evolution of land and forestry policy in Vietnam and the institutional framework of this policy at different levels. This chapter also takes a look at the gap between theory and practices. Additionally, it examines environmentality in the context of mangrove restoration and the relationship between human and nature. The knowledge is viewed under the lens of government and the lens of the local people and how power, knowledge, conflict and local people use their knowledge in reality.

Chapter V offers a solution for the problems raised in the argument about local knowledge as environmental knowledge and coping strategies by addressing the history and knowledge usage and the potential for a combination between local knowledge and scientific knowledge under the era of modernization and development.

The last chapter concludes research results and key findings, theoretical discussions, and research implications.

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