

**Toward sustainable forest management in Vietnam:  
Forest certification development and its policy implications**

---

**Hoang Thi Nguyen Hai**

January 2024

Laboratory of Sustainable Rural Development  
Graduate School of Global Environmental Studies

Kyoto University  
Japan

## Abstract

Forest certification appeared because of the failure of conventional government control measures and an urgent need for a different, market-based approach to protect forest resources, especially in tropical region. In 1993, the first international forestry certification scheme was established under the organization of the Forest Stewardship Council (FSC). The idea behind certification was to develop a set of wide-ranging rules to foster sustainable forest management, and mobilize customers of forest products to encourage producer adherence to these standards. Not surprisingly that the certified forest area keeps increasing, however, big proportion of FSC-certified forests area in developed nations. The initial objective of forest certification to protect the tropical forests has not fully implemented. Besides, many empirical studies have been conducted worldwide about the impacts of certification; most of them are in the developed countries, leaving the lack of research in the developing countries. The lack of consensus about the effectiveness of certification among different studies therefore, requires more studies to be done in order to comprehensively understand the impacts of forest certification.

Vietnam has created favorable policies in order to attract investment and support the implementation of forest certification. An FSC program aiming of pushing timber production by smallholders by granting certificate for a group of small planters has been implemented in Central Vietnam. This thesis examined the implementation of forest certification in Vietnam with a focus on this group certification as case study.

The central empirical question of the research is: How has the forest certification for small scale forest owners been implemented in Vietnam? We have four research sub-questions raised:

1) In what context the forest certification in general, and certification for group of smallholders, in specific, is being implemented in Vietnam?

2) What are benefits and difficulties that the forest owners have to face when pursuing the FSC certification?

3) What type of costs and challenges that forest owners have to cope with during the maintenance of their certification?

4) Has forest certification changed the behavior/practices of forest owners?

The study has started by examining the status of the Vietnamese forest sector and its development under the impacts of international forestry regimes, to see whether the certification was adopted as response to the market requirements. The results show that both internal and external factors have affected the forest certification in Vietnam. The integration to the global economy and the booming of Vietnam timber processing industry with most of its products was for exportation has led Vietnam to the crisis of lacking domestic produced timber sources and the dependence on imported materials. In response to the problem, the government has pushed the development of forest certification, especially paid attention to the smallholders who now own about 4 million ha of forest (sub question 1)

To specify opportunities and challenges associated with the FSC certification for a group of small-scale forest owners (sub question 2), we apply SWOT matrix analysis (chapter 5). The results revealed that though the FSC certification indeed brings many benefits (e.g. price premium and market access, etc...) to the local people, there were still many obstacles in order to maintain the certified forests for long term. For example, the forest expertise level of local people was still low, their livelihood does not support for a long-term forest rotation. Furthermore, cost of certification is a big concern and possibly be solved with support from NGO, governmental programs, private companies, etc. (sub question 3). In addition, the social and environmental aspect of certification is analyzed in Chapter 7 (sub question 4). Overall,

from the social aspect, the certification has brought opportunities of enhance workforce qualification by providing training classes. Occupational safety is fostered, as the certification requires the use of safety products while working. Besides, at our research site, the farmers were more involved in the local development plan and had more access to social networks and resources (e.g. company loans) which were not accessible to those who are not certified. From the environmental aspects, certified farmers adopted significantly more environmentally friendly practices than non-certified farmers – in stages of forest management and harvesting, and other practice to protect environment such as conserving trees to protect water sources, sparing land to create pathways in order to prevent forest fire, and applying low impact logging techniques.

In short, this study has comprehensively analyzed the FSC certification for small-scale forest holder in Vietnam from three aspects of economic, social and environmental issues. Results presented in this study provide important information for better understanding of forest certification in developing country in general and FSC group certification in specific.

## Acknowledgment

First and foremost, I would like to thank to my academic supervisor Professor Satoshi Hoshino for the support, encouragement and assistance during my research and writing process. I would also like to thank to Associate Professor Kenichiro Onitsuka, Associate Professor Shizuka Hashimoto (who now has moved to another university) for valuable feedbacks and guidance throughout my candidature.

My sincere appreciation goes also to the former secretary of lab of Sustainable Rural Development Ms. Yukari Yamada and the entire lab. mates.

I am deeply indebted to the Quang Tri local departments and to many people who helped me to carry out this research in different ways throughout years.

Finally, I am very thankful to have my family here throughout this long journey. A special thanks to my husband and my daughters, for their support, patience and understanding that give me the strength. I also thank to my father and mother in Vietnam who always give me encouragement and motivation to finish this work.

## Table of contents

Abstract.....	
Acknowledgment.....	
Table of contents.....	i
List of tables.....	iii
List of figures.....	iv
List of Acronyms and Abbreviations.....	v
CHAPTER 1: INTRODUCTION.....	1
1.1. Introduction: Sustainable forest management and the rise of forest certification.....	1
1.2. Study context.....	7
1.3 The relevance of this research.....	15
CHAPTER 2: RESEARCH QUESTIONS AND METHODOLOGY.....	19
2.1. Research Objectives.....	19
2.2. Data collection and analysis.....	20
2.2.1. Interviewing:.....	20
2.2.2. Focus groups discussion:.....	21
2.2.3. Document analysis.....	21
3. Research site selection.....	21
4. Structure of the thesis.....	24
CHAPTER 3: LITERATURE REVIEW.....	26
3.1. Sustainable development and forest certification.....	27
3.2. Different ways of viewing forest certification.....	30
3.3. Benefits of certification.....	36
3.4. Costs of certification.....	37
3.5. Challenges of forest certification: The differences between developed and developing countries in certification.....	39
3.6. Conclusions.....	40
CHAPTER 4: OVERVIEW OF VIETNAMESE FOREST SECTOR.....	44
4.1. Introduction.....	44
4.2. General background of the country.....	44
4.4. Findings and Discussions.....	47
4.4.1. International rules and laws:.....	47

4.4.2.	The national strategy for sustainable forest management .....	49
4.4.3.	Market pressure: the globalization and booming of wood industry .....	51
4.4.4.	Stakeholders in the forest certification in Vietnam .....	53
4.5.	Conclusions.....	59
CHAPTER 5: SWOT ANALYSIS OF FOREST CERTIFICATION FOR A GROUP OF SMALLHOLDERS.....		62
5.1.	Introduction.....	62
5.2.	Research methodology.....	62
5.3.	Results SWOT matrix analysis of forest certification .....	66
5.4.	Discussions: possible strategies to maintain and develop FSC group .....	72
5.5.	Conclusions.....	74
CHAPTER 6: COST ANALYSIS OF FSC FOREST CERTIFICATION AND OPPORTUNITIES TO COVER THE COSTS .....		77
6.1.	Introduction.....	77
6.2.	Methods.....	77
6.3.	Results.....	78
6.3.1.	Actual costs of forest certification related activities .....	78
6.3.2.	Possible solutions to pay the cost .....	84
6.4.	Conclusions.....	87
CHAPTER 7: ENVIRONMENTAL AND SOCIAL IMPACTS .....		92
7.1.	Introduction.....	92
7.2.	Research Methodology .....	92
7.3.	Results.....	94
7.3.1	Possible selection bias control.....	94
7.3.2	Changes in practices due to the FSC certification.....	95
7.4.	Discussions .....	101
7.5.	Conclusions.....	104
CHAPTER 8 .....		108
CONCLUSIONS AND POLICY RECOMMENDATIONS.....		108
8.1.	Conclusions.....	108
8.2.	Policy recommendations.....	111
8.3.	Areas for further research .....	112

## List of tables

Table 1. Ten principle of FSC for Vietnam (FSC national forest stewardship standard of Vietnam - FSC-STD-VN-01-2018).....	3
Table 2. Area of natural and plantation forest in Vietnam (million ha).....	7
Table 3. Area and number of household member from 2014 to 2022 (The Smallholder Forest Certification Group in Quang Tri Province) .....	22
Table 4. Total harvested volume of households member from 2015 to 2019.....	23
Table 5. Key Conditions of NSMD Governance.....	29
Table 6. Factors affecting to forest certification uptake in some countries .....	35
Table 7. Possible benefits from forest certification.....	36
Table 8. Estimates of the costs of certification assessments in several countries.....	38
Table 9. FSC certification in the world (area in hectare) .....	39
Table 10. Hierarchal forest management system in Vietnam .....	54
Table 11. Examples of some governmental and non-governmental organization activities in Vietnam .....	56
Table 12. Research Questions for building a SWOT matrix of FSC Group Certification....	65
Table 13. Different Prices for FSC and non-FSC wood (based on 2010 contract).....	66
Table 14. Table SWOT analysis of the FSC certification for group of small holders .....	67
Table 15. Estimation of preparation activities for FSC certification in Quang Tri Province	78
Table 16. The audit costs of FSC certification in Quang Tri Province.....	80
Table 17. Number of CARs for Quang Tri FSC group in the last 7 years. ....	80
Table 18. Summary of all FSC related costs in the period 2010-2016 (in EUR) in Quang Tri Province .....	81
Table 19. Total summary of cost/revenue of the FSC group in Quang Tri Province .....	83
Table 20. Amount of money contributing to the group budget based on 7% regulation in Quang Tri province.....	86
Table 21. Characteristics of FSC-certified and Non-Certified Households.....	95
Table 22. The difference in Practices Between Certified and Non-Certified Households ...	96



## List of figures

Figure 1. The FSC certified area in the world .....	6
Figure 2. FSC certified area in Pacific Asia .....	6
Figure 3. Forest development in Vietnam 2005-2017 .....	11
Figure 4. The expansion of FSC-certified area in Vietnam .....	13
Figure 5. Forest ownership in Vietnam .....	15
Figure 6. Structure of the thesis.....	26
Figure 7. The change in forest cover rate in Vietnam .....	46
Figure 8. Forest status of Vietnam from 2005 to 2016 (Unit: Thousand Ha) .....	51
Figure 9. Percentage (%) of forestland allocated among different groups.....	58
Figure 10. Map of Quang Tri province and location of 5 districts of the members in the FSC group .....	64
Figure 11. Average number of households by plantation area.....	64
Figure 12. Vegetation was burnt (left) and no burnt (right) on the field.....	98
Figure 13. A chainsaw operator using PPE when harvesting in FSC-certified forest .....	101
Figure 14. Reasons why forest owners left the FSC Certification Group.....	102

## List of Acronyms and Abbreviations

CIFOR	The Center for International Forestry Research
EU	European Union
JICA	The Japan International Cooperation Agency
FAO	Food and Agriculture Organization
FSC	Forest Stewardship Council
FLEGT	Forest Law Enforcement, Governance and Trade.
NSMD	Non-state market driven
MARD	Ministry of Agriculture and Rural Development
MONRE	Ministry of Natural Resources and Environment
NSMD	Non-state market driven
MDG	Millennium Development Goals
PPE	Personal protective equipment
SFM	Sustainable forest management
SNV	Foundation of Netherlands Volunteers
SFE	State forest enterprise
USAID	United State Agency for International Development
VPA	Voluntary Partnership Agreement
WWF	World Wide Fund for Nature

# CHAPTER 1: INTRODUCTION

## 1.1. Introduction: Sustainable forest management and the rise of forest certification

For a long history, forest and trees have been playing important roles in the livelihoods of people by providing food, energy and ecosystem services such as prevention of floods, droughts and air circulation. The sustainable management of forest has been always a top important target of any country.

Despite the importance of the forest resource, deforestation in the world has been increasingly accelerated and the Millennium Development Goals (MDG) indicator on forests has not been achieved (FAO, 2014). By the beginning of 1990s the shrinking of forest resource had become a world problem (Elliott, 2000). Agricultural expansion is a major driver of tropical deforestation as more than half of 100 million ha of agricultural area expanded during the 1980s and 1990s was used to be intact forests (Holly et al., 2010). Using satellite images (Jang et al. 1996 in (Elliott, 2000) estimated that, between 1986 and 1993, 19% of the world's rainforest area was degraded. Southeast Asia has the highest deforestation rate of any major tropical region. The loss of forest area has resulted in many issues such as increased CO<sub>2</sub> emissions, loss of biodiversity and exacerbates climate change. However, traditional approaches have not been sufficient to stop the loss the world forest. In the 1992 Earth Summit, the world has failed in establishing a binding international agreement to manage the use and preservation of forests. In this context, some NGOs encouraged the development of private governance as viable alternative to protect the world forest.

In late 1990s forest certification appeared. It is considered as a market-based tool in order to promote the sustainable management of the forest by using “carrots” such as market access and potential price premium (Cashore, Auld, & Newsom, 2004). Very quickly,

certification has gained momentum as an effective conservation strategy in tropical forest countries (Ebeling & Yasue, 2009). Its original objective is to address concerns of deforestation and forest degradation in tropical zone.

Forest certification is the process that forest management and forest operations demonstrate that their practices are in conformity with specific set of standards. The process of certification involves a number of different actors such as the certification and issuing bodies, the forest managers and forest owners (who will become certificate holders), stakeholders and government agencies/departments. In addition, forest certification tends to differ in different context (Hayward & Vertinsky, 1999). Today most forest certification occurs in the temperate and boreal forests (Taylor, 2005). According to FAO (2020) up to 2019, the majority of the certified area was in Europe and North America with a total of 200 million ha of forest was certified under the FSC. Certification in developing countries where a big percentage of the population relies on forests for their food and livelihood lags behind.

Certification scheme such as FSC require the compliance to a pre-determined standards, which is called The FSC Principles and Criteria. They are written at a high level of abstraction and FSC allow countries to further elaborate in order to be suitable to national and local requirements. The national version of FSC Principles and Standards will need to be approved by FSC before applying. Vietnam already have the FSC national forest stewardship standard from 2018. It consists of ten principles and fifty-six criteria as described in Table 1.

Table 1. Ten principle of FSC for Vietnam (FSC national forest stewardship standard of Vietnam - FSC-STD-VN-01-2018)

Principle 1: Compliance with law	The organization shall comply with all applicable laws, including international and national laws, ratified treaties, conventions and agreements
Principle 2: Workers rights and employment	The Organization shall maintain or enhance the social and economic wellbeing of workers.
Principle 3: Indigenous People’s rights	The Organization shall identify and uphold indigenous peoples’ legal and customary rights of ownership, use and management of land, territories and resources affected by management activities.
Principle 4: Community relation	The Organization shall efficiently manage the range of multiple products and services of the Management Unit to maintain or enhance long term economic viability and the range of environmental and social benefits.
Principle 5: Benefits from forest	The organization shall efficiently manage the range of multiple products and services of the Management Unit to maintain or enhance long-term economic viability and the range of social and environmental benefits
Principle 6: Environmental values and impacts	The Organization shall maintain, conserve and/or restore ecosystem services and environmental values of the Management Unit, and shall avoid, repair or mitigate negative environmental impacts.
Principle 7: Management plan	The Organization shall have a management plan consistent with its policies and objectives and pro- portionate to the scale, intensity and risks of its management activities.
Principle 8: Monitoring and assessment	The Organization shall demonstrate that progress towards achieving the management objectives, the impacts of management activities and the condition of the Management Unit, are monitored and evaluated proportionate to the scale, intensity and risk of management activities, in order to

	implement adaptive management.
Principle 9: High conservation values	The Organization shall maintain and/or enhance the high conservation values in the management unit through applying the new precautionary approach.
Principle 10: Implementation of management activities	Management activities conducted by or for the organization for the management unit shall be selected and implemented consistent with the organization's economic, environmental and social policies and objectives.

FSC does not issue the certificate by itself but via independent third-party certification bodies on its behalf. The certifiers or certification bodies must gain FSC accreditation to provide certification services, which include the evaluation, monitoring and certifying forest management unit to FSC's standards.

The FSC certification is applicable for all tropical, temperate and boreal forests and to plantations and partially replanted forests, but as up to present, most of certified is in temperate and boreal regions, the area of certified tropical forest is less (Fig.1). In Asia, the FSC certified area fluctuates, but generally tends to increases (Fig. 2). Meanwhile, many countries in the tropical region are developing ones, where the forest owners' expertise is lower compared to those in developed nations. In fact, they face greater difficulties with conditions relating to the management system, monitoring and social aspects, etc. The cost of certification is another critical issue that especially affects to small scale forest owners. To accommodate them and simultaneously increase the certified forests in developing countries, FSC has initiated the group certification, aiming for the small-scale forest owners. By joining into a group certification, the small-scale forest owners can still enjoy benefits of the certification while the associated costs are shared; therefore, lower than for a single owner.

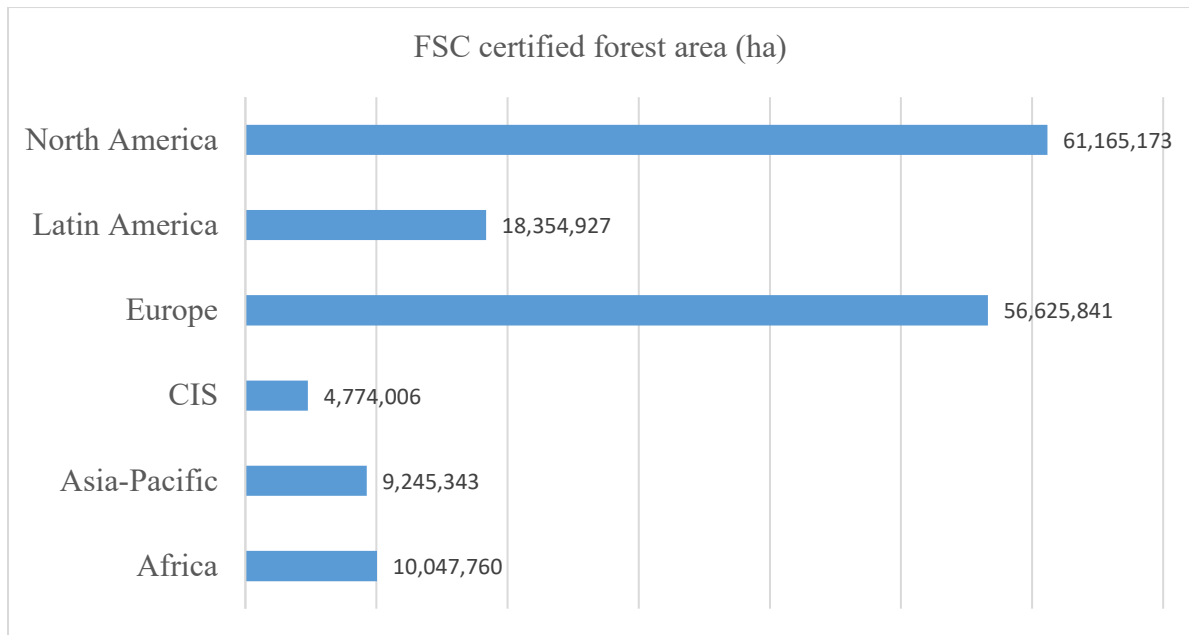


Figure 1. The FSC certified area in the world

Source: FSC facts and figures. 2023 (<https://connect.fsc.org/impact/facts-figures>)

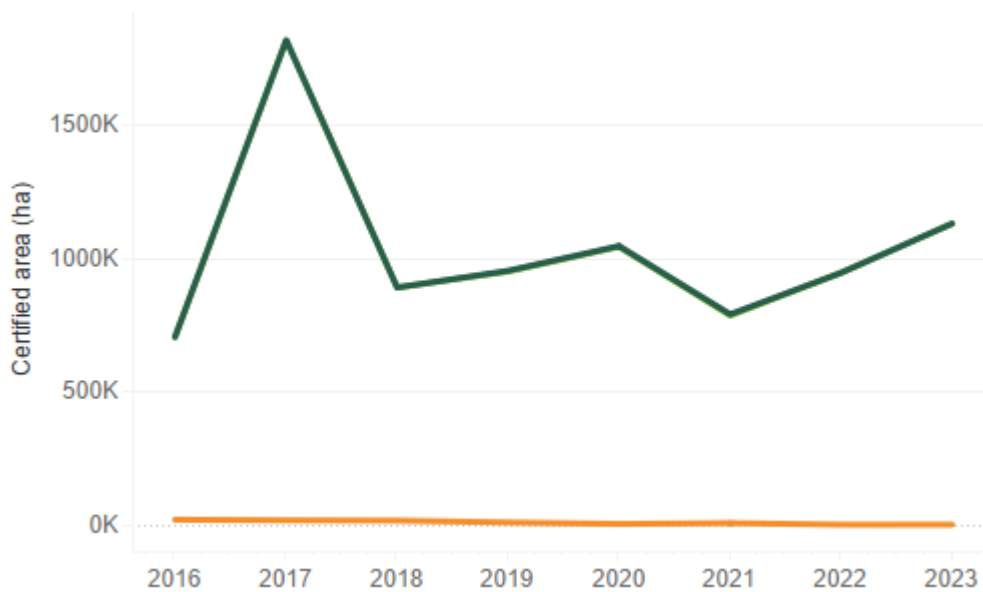


Figure 2. FSC certified area in Pacific Asia

Source: FSC facts and figures. 2023 (<https://connect.fsc.org/impact/facts-figures>)



## 1.2. Study context

Viet Nam is located on the Indochina peninsula in Southeast Asia with a total land area of 330,541 sq. km. Nearly  $\frac{3}{4}$  of her territory is mountains and hills or highland and extends for 3260 km along the southeast coast of Asia, between latitudes 8°30'N and 23°N.

Total population is approximately 96 million people, ranking 3rd in Southeast Asia (after Indonesia and the Philippines) and 15<sup>th</sup> in the world; 65.6% live in rural area and depend on forest (Vietnam General Statistics Office, 2020).

Forestry has traditionally been an important industry in Vietnam, and a mainstay to the livelihood of some rural communities. In 33.12 million ha of natural land, 13.388 million ha is forested; 6.16 million ha is bare land, which are both the production land of agriculture and forestry activities. It is estimated that 25 million people are living in or near the forest and have their livelihood depend on forest resource (Cifor 2006).

The world has witnessed rapid expansion of forest plantations and the country's area of planted forests past three decades (Table 2), from 1.639 million ha in 2000 to 3.083 million ha in 2010 and 4.316 million ha in 2020 (Governmental announcement of forest and land areas). In Vietnam, investments from private section into sustainable forest plantations are encouraged. The state hopes private forestry to contribute to development and poverty alleviation, especially when public institutions lack the financial incentives and capacity to ensure sustainable forest.

Table 2. Area of natural and plantation forest in Vietnam (million ha)

	1976	1980	1985	1990	1995	2000	2005	2010	2015	2020
Natural	11.077	10.186	9.308	8.431	8.253	9.676	10.28	10.304	10.175	10.292
Plantation	0.093	0.442	0.584	0.745	1.048	1.639	2.218	3.083	3.886	4.316
Total area	11.169	10.608	9.892	9.176	9.302	11315	12.616	13.388	14.061	14.608

Source: Vietnam General Statistic Office 2020

Vietnam got its independence in 1975, by that time, forest cover reduced from 43% in 1943 to 20% in 1975 (McElwee, 2016). Forestry sector in this period focused on sustained timber production in order to earn foreign currency for economic recovery. In 1981, Decision 37/NQTU of the Vietnam Communist Party introduced guiding principles for the protection of the environment in urban and rural areas. The decision was considered as ultimate guidelines for a range of later environmental legislation and policies.

In order to transform the nation from a centrally planned communist economy to one that is more driven by the market, the Vietnamese government announced in 1986 that it would start a process of renovation or economic reform (DOI MOI). From the environmental perspective, this process showed the government's focus on balance between quick development and protecting natural resources.

With respect to the forest coverage of Vietnam, it was 43% in 1943, then dropped to 25–31% of the country area in 1991–1993, and then increased to 32–37% in 1999–2001 (Meyfroidt, 2008). There were many reasons for the fluctuation. Before 1975, the forest decreased due to two main wars devastation 1945-1954 with France and 1961-1975 with USA. It is estimated that Vietnam lost 2 million ha of forest during these 2 wars. Other reasons included land conversion for agriculture production, land fires, illegal logging, over-harvesting by state organizations, weak management, etc.

In order to see the changes in Vietnam forestry based on the historical characteristics the forestry situation can be divided into 2 phases:

*After the reunion until 1993: The dominance of state forest*

Following the country's reunification in 1975, Vietnam adopted a central framework for forest management that centred on the utilisation of forest resources for the overall growth of

the country. The state nationalized forest resources and forestland as a state property and applied a direct involvement of the state in the management, exploitation, processing and distribution of Vietnam's forest resources. In early 90s, State forest enterprises (SFEs) were the major actors in forest management (Tan & Hung, 2015). The state devoted more attention to exploiting forest resources, especially timber, for industrial purposes and for export to mobilize capital for the national economy. In addition, Vietnam government just focused on two economic sectors - state and cooperatives that were developed on a large scale in line with the temporary planning mechanism. Community forestry and household forestry were not encouraged to develop during this period. Instead of that, focus was on state forestry enterprises (SFE) and group forestry (agricultural-forestry cooperatives). As a result, the SFEs' primary role was to exploit timber, with minimal emphasis placed on forest management. This was due to the SFEs' limited ability to manage forests due to a lack of human resources and infrastructure. Because of this, there was significant forest deforestation and degradation for a period (from 1976 to 1990, table 1).

*From Land law 1993 till present: Forest decentralization for sustainable management*

Though in 1986, Vietnam conducted the Renovation, which took place in all fields of society and economy, however, it was not until 1993 that the significant change in forestry sector took place, beginning by devolving forest management from the State to lower levels. The 1991 Law on Forest Protection and Development stipulated that forest resources could be allocated to diverse land users, including organizations and individuals. In July 1993, a Land Law was passed specifying that land users were entitled to long-term, renewable land-use titles (called Red book certificates). The management authority of unallocated land currently falls under MARD but forest policy reforms are gradually changing this situation, with SFEs contracting the use of forestland to households, and some land, previously shared by village communities for subsistence purposes is now being assigned to private individuals and

companies. These changes are fostering investment from the private sector, particularly in the field of plantation forestry.

From 2000s there were more policies issued in order to protect the community forestry in Vietnam. Land Law 2003 recognized a community as a legal owner of land resources. The Law on Forest Protection and Development 2004 supported the allocation of forest to local communities for protection and management.

In 1991–1993, the national forest cover dropped to 25–31% but then increased to 32–37% in 1999–2001 (Meyfroidt and Lambin 2008). According to the National Forest Declaration published by the MARD (2014), as of 31/12/2013, Vietnam has almost 14 million hectares of forest with the rate of forest cover being 41%. Approximate 25 million people in Vietnam, especially poor and ethnic minorities, use forests for subsistence livelihoods (World Bank 2016)

Given the quality of forest and the timber value in Vietnam, it is widely observed that although the forest cover rate has been consistently increasing; the forest quality is decreasing because most of the forests are poor or generating forests (Meyfroidt and Lambin 2008).

From 2000s till 2017, wood and processed wood product exports of Vietnam continued to achieve positive results, with a turnover of 5.7 billion USD in 2017, equalled 2.7 times compared to 2.3 billion USD in 2007 (Vu et al., 2019)

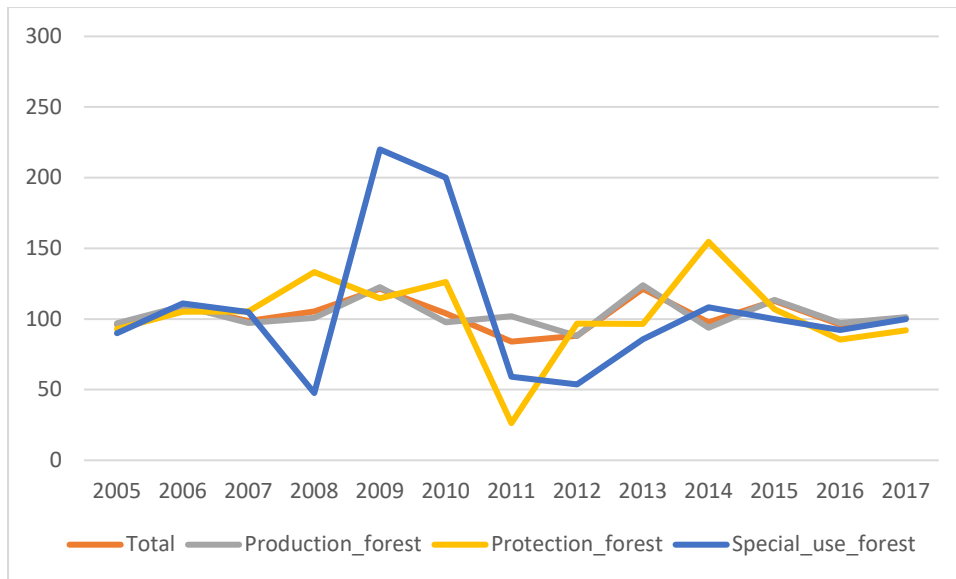


Figure 3. Forest development in Vietnam 2005-2017

Source: *Documentation and Statistical Services Center, GSO*

*Notes:*

<i>Protection Forest</i>	<i>Forests are mainly used to protect water resources, protect soil, prevent erosion, combat desertification, limit disasters, regulate climate and protect the environment.</i>
<i>Special Use Forest</i>	<i>Forests mainly used for nature preservation, national ecological standard samples, forest biological gene sources; scientific research; To protect historical and cultural relics and places of scenic beauty; Resting and tourism, combined with environmental protection.</i>
<i>Production forest</i>	<i>Forests are mainly used for production and trading of timber, non-timber forest products and protection of the environment.</i>

**Forest management and the FSC certification in Vietnam;**

The decentralization in Vietnam’s forestry was aimed for better management, protection and commercialization of forests. Simultaneously, it also established a legal basis for setting up new initiatives of the world forestry such as forest certification and tracing forest products source in global trading agreements.

With the development of private household-based plantations, and the quick increase in plantation forest area, Vietnam has the opportunity to become a world leading wood chips exporter. (Barney, 2005) however, points out the difficulties in maintain the extent and

composition of the exports. Some of them include illegal logging operations, with timber from Cambodia and Lao PDR being re-exported from Vietnam (Meyfroidt and Lambin 2009).

In addition, with the open of the economy, forestry sector was put under the impacts of international regimes and *forest certification*. Though was introduced to Vietnam from last century (in 1997) but forest certification has quickly attracted interest of companies and other forest owners, managers. Currently, FSC is the most prevailing certification scheme that implemented in Vietnam.

FSC in Vietnam is supported by WWF from 1998. WWF Indochina provided technical and financial support for Vietnam national working group in developing national stewardship criteria based FSC set of criteria.

Vietnam government views forest certification as a tool to improve the management of forest resources and simultaneously, the certificate also is used to increase the value of domestic planted timber and cope with market requirement of legally sourced timber, especially as Vietnam faced with issue of using illegal logged timber from neighbor countries (Laos and Cambodia).

In respect to the certification, forestry laws in Vietnam are highly compatible with certification requirements, and the government somehow high evaluates forest certification, proving that they set the target of getting 30% of production forest to be certified by 2020 – equal to 1.8 million ha of forest. To date certified areas, however, remain relatively insignificant as by 2022, only 279,666ha has been certified by FSC. During more than 15 years of development, the certified area in Vietnam has kept increasing. By middle of 2023, 65 FM certificates has been issued in Vietnam with total area of 279,666ha (Fig.3)

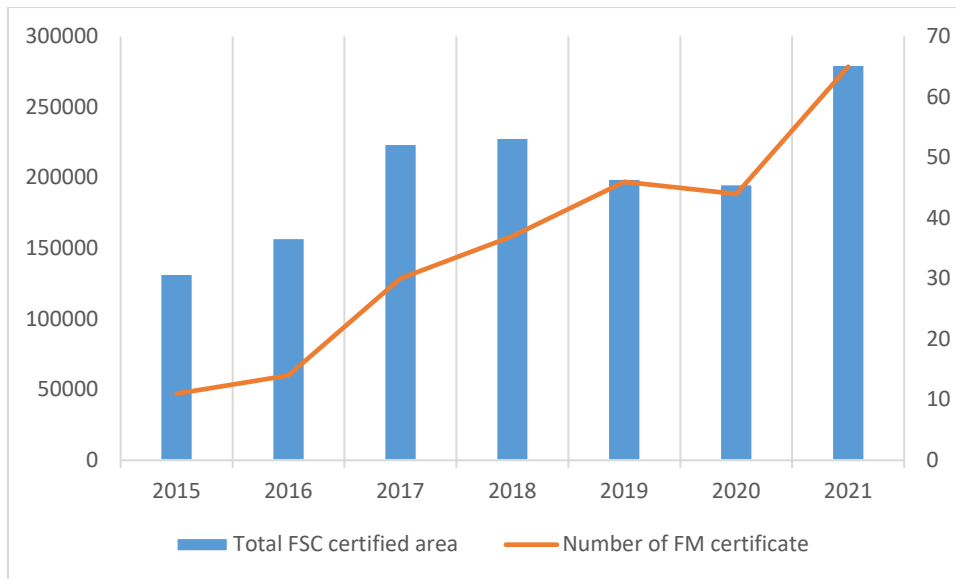


Figure 4. The expansion of FSC-certified area in Vietnam

*Synthesized data from FSC fact and figure (<https://connect.fsc.org/impact/facts-figures>)*

As many elsewhere in the world, forest certification in Vietnam is promising to bring benefits such as price premium, market access, and at the same time, creating challenging for the costs of audit and necessary changes in order to meet the criteria of auditors. The government view forest certification as a tool to promote sustainable forest management, and at the same time, increase the production value for local growers, as well as increase the percentage of domestic timber usage for furniture production industry which is now depend on foreign markets for approximately 80% of material sources.

However, there is less study about actual impacts of forest certification to Vietnam forest growers and to the timber industry, how it shapes the nation's forest policies, whether the benefits that FSC bring worth the costs and efforts, how forest certification contribute to improve local livelihoods, etc... The lack of research is quite a common problem since in fact, there have been many researches about forest certification, but most of them focused on developed countries. Nevertheless, study on developing countries is worth to consider since European and developed countries market import a lot of wood from the third world nations.

Plantation development in Vietnam has focused on monocultures of fast-growing exotic species of Eucalyptus, Acacia and Pinus (Nambiar et al., 2015; Cuong T, 2000). These particular trees, known for their ability to grow in unfertilized soil and rapid rotation, are now being cultivated with rotations of less than 10 years. This enables relatively fast cash flows. However, due to short rotation, most of wood from plantation is suitable for firewood and chip wood with low value. Meanwhile, as mentioned above, small holders play an important role in Vietnam forestry regarding the area they own, however, due to the fact that wood processing sector prefer imported timber, locally produced timber do not bring high value to the farmers. Key to this issue could be the certification since provide a number of social benefits and achieve better forest management (Haes, Snelder, & Snoo, 2008) (Hajjar, 2013). Moreover, certification standard such as FSC also provide opportunity for low-income farmer to reduce cost of certification by offering Small and Low-Intensity Managed Forests (SLIMF) certificate.

Based on the increment of certified area, the certification seems to be very successful in Vietnam, however, in fact, domestic market for certified products yet not exist (no record up to present). In addition, awareness of certification is low (MARD 2010). Meanwhile in Vietnam, smallholder households are very popular, manage approximately 50% of the total country's acacia plantations. Most of them own a plot size of 1–5 ha and harvest acacia timber after short rotation periods (5–6 years) producing woodchips with relatively low financial returns (Zhunusova E (2019),Tham, Darr, and Pretzsch (2021)). In term of ownership, individual (households) own 3.145.47 out of total 14.061.86ha of forest of Vietnam in 2015 (FAO 2015), implying their central role of plantation forestry.



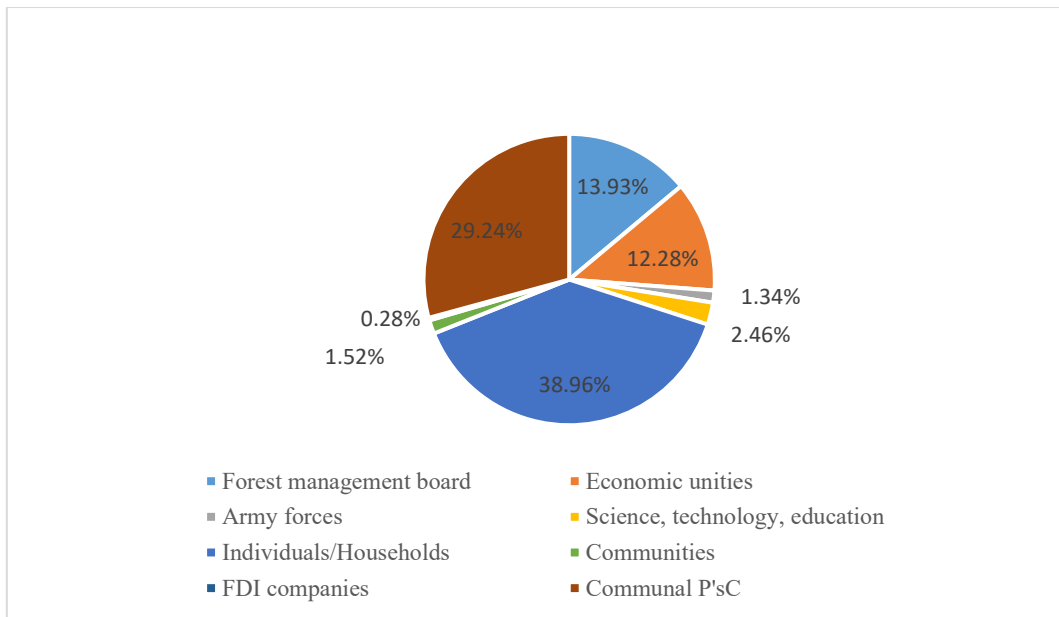


Figure 5. Forest ownership in Vietnam

Source: FPD (Forest Protection Department). Data on forest changes.  
<http://www.kiemlam.org.vn/Desktop.aspx/List/So-lieu-dien-bien-rung-hang-nam/>

The question is, what is the position of small-scale forest owner in the expansion of forest certification in Vietnam; What is their motivations, how benefits worth for the costs, how small-scale forest owner could afford to obtain the certificate, etc. . The conditions under which they operate need to be well understood in order to sustain and increase the small-scale forestry production as well as target to a successful forestry strategy of Vietnam.

### 1.3 The relevance of this research

As mentioned above, although the certified forest area keeps increasing (Fig 1), big proportion of FSC-certified forests area in developed nations. The initial objective of forest certification to protect the tropical forests has been not fully implemented. Besides, many empirical studies have been conducted worldwide about the impacts of certification; most of them are in the developed countries, leaving the lack of research in the developing countries. The lack of consensus about the effectiveness of certification among different studies therefore,

requires more studies to be done in order to comprehensively understand the impacts of forest certification.

Since the 1990s, the Vietnamese government has begun the forest land allocation to smallholder households for afforestation and sustainable management of degraded forestry land. In addition, there are several tree planting and restoration programs over the past 30 years in Vietnam which have contributed to the expansion of forest cover from a low point of 9.4 million ha in 1990 to an estimated 14.6 million ha in 2020. Much of the work has been carried out by smallholder households as they own about 50% of the country's planted forest area (FAO 2015). The most prominent specie cultivated by small-scale farmers is Acacia hybrid (*Acacia auriculiformis* × *Acacia mangium*) due to its suitability for local conditions, quick rotation (e.g. 5 years), and does not require much investment and effort. Acacia timber production has been commercialized, its output is mostly for woodchips and pulp industries which generate the income for millions of rural households (Maraseni et al., 2017)

The process of forest certification, with its procedures of checking compliance with the standard and verification systems, could be stringent and inappropriate for smallholders. In addition, the certification-associated costs are high, and technical requirements are difficult to comply with (Boakye-Danquah & Reed, 2019)

From early 2000s, the small scale forest owners have participated in forest certification in Vietnam, however, there is no sufficient understanding of motivations for their participation as well as their benefits and challenges.

This dissertation aims to provide a comprehensive look of forest certification in Vietnam with the focus on forest certification for group of small scale forest holders. Given the important role of smallholder in the Vietnam forestry, investigation of motivations and challenges of FSC for group will help to enhance the effectiveness of FSC certification program implementation and essential for developing the plantation policy in Vietnam

## REFERENCES

Cashore, B., Auld, G., & Newsom, D. (2004). *Governing Through Markets: Forest Certification and the Emergence of Non-State Authority*.

Cuong T, C. T., Zhang Y, Xie Y. (2000). Economic Performance of Forest Plantations in Vietnam: Eucalyptus, Acacia mangium, and Manglietia conifera. *Forests*, 11(3). doi:<https://doi.org/10.3390/fl1030284>

Elliott, C. (2000). *Forest certification: a policy perspective*. Center for International Forestry Research (CIFOR).

Ebeling, J., & Yasué, M. (2009). The effectiveness of market-based conservation in the tropics: Forest certification in Ecuador and Bolivia. *Journal of environmental management*, 90(2), 1145-1153. doi:<https://doi.org/10.1016/j.jenvman.2008.05.003>

FAO. (2014). The Millennium Development Goals Report. Retrieved from <https://www.un.org/millenniumgoals/2014%20MDG%20report/MDG%202014%20English%20web.pdf>

FAO. (2015). Global Forest Resources Assessment, Country Report: Vietnam. Retrieved from <https://www.fao.org/3/cb0089en/cb0089en.pdf>

FAO. (2020). Global Forest Resources Assessment 2020 – Key findings. doi:<https://doi.org/10.4060/ca8753en>

Haes, H., Snelder, D., & Snoo, G. R. (2008). The Potential of Sustainable Forestry Certification for Smallholder Tree Growing. In (pp. 207-226).

Holly, G., Aaron, R., Achard, F., K., C. M., Peter, H., Navin, R., & Jacqui, F. (2010). Tropical forests were the primary sources of new agricultural land in the 1980 and 1990. *Proceedings of the National Academy of Sciences of the United States of America*, 107, 16732-16737. doi:[10.1073/pnas.0910275107](https://doi.org/10.1073/pnas.0910275107)

Vietnam general statistics office. (2020). Completed results of the 2019 Viet Nam population and housing census. Retrieved from <https://www.gso.gov.vn/wp-content/uploads/2019/12/Ket-qua-toan-bo-Tong-dieu-tra-dan-so-va-nha-o-2019.pdf>

Hajjar, R. (2013). Certifying small and community producers in developing countries: prospects for adoption and diffusion. *Forests, Trees and Livelihoods*, 22(4), 230-240. doi:[10.1080/14728028.2013.837411](https://doi.org/10.1080/14728028.2013.837411)

Hayward, J., & Vertinsky, I. (1999). High Expectations, Unexpected Benefits: What Managers and Owners Think of Certification. *Journal of Forestry*, 97(2), 13-17. doi:10.1093/jof/97.2.13

Zhao, J., Xie, D., Wang, D., & Deng, H. (2011). Current Status and Problems in Certification of Sustainable Forest Management in China. *Environmental management*, 48, 1086-1094. doi:10.1007/s00267-011-9620-9

Nambiar, S., Harwood, C., & Kien, N. (2015). Acacia plantations in Vietnam: research and knowledge application to secure a sustainable future. *Southern Forests: a Journal of Forest Science*, 77. doi:10.2989/20702620.2014.999301

Maraseni, T., Son, H., Cockfield, G., Duy, H., & Nghia, T. (2017). Comparing the financial returns from acacia plantations with different plantation densities and rotation ages in Vietnam. *Forest Policy and Economics*, 83, 80-87. doi:10.1016/j.forpol.2017.06.010

Lewin, A., Mo, K., Scheyvens, H., & Gabai, S. (2019). Forest Certification: More Than a Market-Based Tool, Experiences from the Asia Pacific Region. *Sustainability*, 11(9). doi:10.3390/su11092600

Tan, N. Q., & Hung, L. Q. (2015). *Viet Nam Case Study Prepared for FAO as part of the State of the World's Forests 2016 (SOFO)*. Retrieved from <https://www.fao.org/3/c0186e/c0186e.pdf>

Taylor, P. (2005). In the Market But Not of It: Fair Trade Coffee and Forest Stewardship Council Certification as Market-Based Social Change. *World Development*, 33, 129-147. doi:10.1016/j.worlddev.2004.07.007

Tham, L. T., Darr, D., & Pretzsch, J. (2021). Analysis of Acacia hybrid timber value chains: A case study of woodchip and furniture production in central Vietnam. *Forest Policy and Economics*, 125, 102401. doi:https://doi.org/10.1016/j.forpol.2021.102401

Vu, T. T., Tian, G., Khan, N., Zada, M., Zhang, B., & Nguyen, T. V. (2019). Evaluating the International Competitiveness of Vietnam Wood Processing Industry by Combining the Variation Coefficient and the Entropy Method. *Forests*, 10(10). doi:10.3390/f10100901

Zhunosova, E., Sen, L. T., Schröder, J.-M., Ziegler, S., Dieter, M., & Günter, S. (2019). Smallholder Decision-Making on Sawlog Production: The Case of Acacia Plantation Owners in Central Vietnam. *Forests*, 10(11). doi:10.3390/f10110969

## CHAPTER 2: RESEARCH QUESTIONS AND METHODOLOGY

### 2.1. Research Objectives

This PhD dissertation seeks to better understand forest certification impacts through answering a central empirical question: *How has forest certification for small-scale forest owners been implemented in a developing country like Vietnam?* We investigate the situation from the macro view of the country forestry sector under the impacts of forest certification, and then provide a closer view by taking the group of small holders in Quang Tri province. Based on this, policy suggestions were made.

This thesis has four (4) objectives in line with this goal:

- 1) To describe and analyze the factors led to the development of forest certification in Vietnam (Chapter 3 and 4)
- 2) To contribute to a better understanding of the potential strengths and weaknesses of forest certification from the perspective of small holders. (Chapter 5)
- 3) To investigate benefits and costs of certification for group of small holders (Chapter 6)
- 4) To assess the social and environmental impacts and challenges of the FSC forest certification (Chapter 7)

#### Research questions

The central empirical question of the research is: *How has the forest certification for small-scale forest owners been implemented in Vietnam?* In order to have the answer, the following four research sub-questions are raised:

- 1) In what context the forest certification in general, and certification for group of smallholders, in specific, is implemented in Vietnam? The answer to this question

provide the overall situation of Vietnam forestry sector, and analyze factors affecting to the development of forest certification such as national economic strategy, forestry and timber processing industry, governmental policies, ect.

- 2) What are benefits and difficulties that the forest owners have to face when pursuing the FSC certification? This question explores what specific strengths, weaknesses, opportunities and threats which have been arised due to the FSC certification, using a case of certification for the group in Central Vietnam.
- 3) What type of costs and challenges that forest owners have to cope with during the maintenance of their certification? This question is to identify financial costs in order to be certified by FSC and other potential challenges as well.
- 4) Has forest certification changed the behavior/practices of forest owners? This question explores the ways in which the forest owners have changed their practices of forest management to response to the standards of the FSC forest certification.

## 2.2. Data collection and analysis

### 2.2.1. Interviewing:

In order to collect primary data, I applied both semi-structure and in-depth interview. Semi-structure interviews do not need to strictly follow a list of questions but instead, use more open-ended questions which allow the interviewees to open their mind for a discussion. Using semi-structured interviews I am able to narrow down some areas or topics or focus on a specific issue that I want to discover more.

In-depth interview encourages the interviewees to interact more and give answer that is more detailed, therefore, I get greater depth of answers. Especially when the interviewees are the elites of the villages or the people who know a lot about the local, applying in-depth interview with them help me to understand the problem much clear as the process of interview allow me to interact more with my interviewees, encouraging them to reveal the explanatory

factors of their answers. When needed, interviewees ask me to clarify questions when they are confused.

### 2.2.2. Focus groups discussion:

This is a popular qualitative research method in the social sciences. The focus group method is a technique of group interview that generates data through the opinions expressed by participants/ Invited people are interviewed in a discussion setting which generally last for 80-90 mins. The advantage is that specific issues can be focused and analyzed.

In this research, focus group discussion is used for the SWOT matrix analysis. In these cases, the focus group discussion is suitable because it is aimed to explore the range of opinions/views on a topic of forest certification and to collect a wide variety of ideas.

### 2.2.3. Document analysis

A lot of documents were collected and analyzed in order to provide secondary data and support to cross-check the evidence provided by the interviews when necessary. I used a wide range of documents including: audit reports listed on the FSC organization website, which includes the narration of corrective action requests (changes/modification required pointed out by the auditors in order to meet FSC standards), government documents and records, national laws and regulations, and group internal report and scientific papers.

## 3. Research site selection

The Smallholder Forest Certification Group in Quang Tri Province was formed in 2010 under the Project on Linking Trade Demand and Sustainable Forest Management supported by Switzerland's State Secretariat for Economic Affairs via the World Wide Fund for Nature (WWF) Vietnam. The general approach of this project was to support the organization of

smallholder groups and enable them to plan and implement FSC-compliant management of their resources so that they can access high value markets for certified Acacia timber.

In 2010, there were 130 registered smallholders with 320 hectares of plantation forests, which, as of September 2022, had increased to 572 smallholders with 4,992.5 hectares of forest (Table 3). The forest management unit is the household. Often households within one village together form a group and assign one person to be the leader. Village group leaders have the responsibility to assist members in forest management planning, inspection, and monitoring. At a higher level is the communal manager who has responsibility for controlling and supporting the village groups by disseminating market information about prices and buyers, and of working with related stakeholders.

Table 3. Area and number of household member from 2014 to 2022 (The Smallholder Forest Certification Group in Quang Tri Province)

<b>Year</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
<b>Number of member</b>	342	394	564	572	523	535	529	539	572
<b>FSC certified area (ha)</b>	925	1,083	1,722.4	1,876.5	1,929.5	3,16.92	3,126.6	4,407.0	4,992,5

Source: Data of the smallholder forest certification group in Quang Tri province

At the beginning, WWF Vietnam assigned a staff member to be the group’s legal representative; however, from late 2012 the provincial Department of Forestry (DoF) took over the contact organization of the group as a preparatory step for the withdrawal of the donor when the project finishes. The department is in charge of maintaining as well as developing group members, providing technical guidance in forest planting, and monitoring harvesting in accordance to FSC principles and criteria. Furthermore, they receive and distribute supporting



funds for the group. In 2014, the group registered as The Association of Quang Tri Smallholder Forest Certification Groups.

Household characteristics of group members:

Most of the smallholdings have a plantation area of under 5 ha of Acacia trees (Fig. 1). 92 % (of 191) heads of the household who are men (it is traditional that the man is the head). Women often refuse to answer questions, reasoning that they do not manage the economic business of the family. Household heads on average have completed 7 years of schooling and are 40 years old. Household size is relatively even, with a mean size of 5.2 (SD 0.8) (Fig. 2).

The participating households have been granted land use rights for 50 years for the establishment of plantations. These rights are guaranteed by the Land Law and Forest Law of the Government.

Family income comes from different sources such as livestock husbandry (cow, chicken, and duck), dry crop cultivation (cassava, corn) and services (bike fixing shop, grocery shop). Less than 20 % of the people interviewed are working and receiving salary from the government.

Outcome for certified wood:

The Group has signed supply certified timber to two wood processing companies, first Thanh Hoa Wood Processing Company and Scansia Pacific company (Table 4). These two companies commit to purchase certified sawn timber at higher prices compared to non-certified timber from 15-18 percent. The profit from one hectare of FSC-certified forest is approximately VND 20 million (about USD 90) higher than non-certified forest of the same age (approximately 7-10 years). They also provide financial support for surveillance audits

Table 4. Total harvested volume of households member from 2015 to 2019

Harvest time	Area (ha)	Harvested in tons
Harvested in 2015	19.8	2,022.2
Harvested in 2016	129.7	11,387.5

Harvested in 2017	153.6	15,091.6
Harvested in 2018	146.5	16,436.3
<b>Total</b>	<b>449.6</b>	<b>58,428.8</b>

Source: Data of the smallholder forest certification group in Quang Tri province

#### 4. Structure of the thesis

Though there have been some surveys undertaken in Vietnam, this thesis represents the first systematic attempt to assess the motivations, feasibility, challenges and prospect for the adoption of forest certification in Vietnam. The thesis structure of content is organized from the macro level view of Vietnam forestry scale down to forest certification for a group of small holders.

After the introduction in the Chapter 1, Chapter 2 is the research question and methodology. Chapter 3 provide a synthesis of the existing literature about forest certification including definition, its benefits and associated costs, different ways of considering forest certification, etc. This section aimed to provide a general knowledge relating to sustainable forest management and certification status in the world. Information has been drawn from a wide range of sources, including academic papers and journals, reports of certification.

Chapter 4 analyzes the general background of the country and its important policies, which related to the development of forest certification in Vietnam.

From Chapter 5, the group of small forest owners in the Central of Vietnam is selected to take a closer look on benefits and challenges of certification, applying the SWOT matrix. In details, strengths, weaknesses, opportunities and threats of group certification are discussed. Challenges to adopt and maintain the forest certificate are defined. Possible solutions to overcome obstacles also are suggested.

As the results of chapter 5 points out that high cost of certification is the financial barriers of the forest certification, chapter 6 is the analysis of what kind of costs and possible solutions.

Aspects of environmental and social impacts of the FSC certification for the group of small-scale forest owners in the research site is continued to be analyzed in the Chapter 7.

Final chapter 8 is for conclusions, discussions and recommendations for future research.

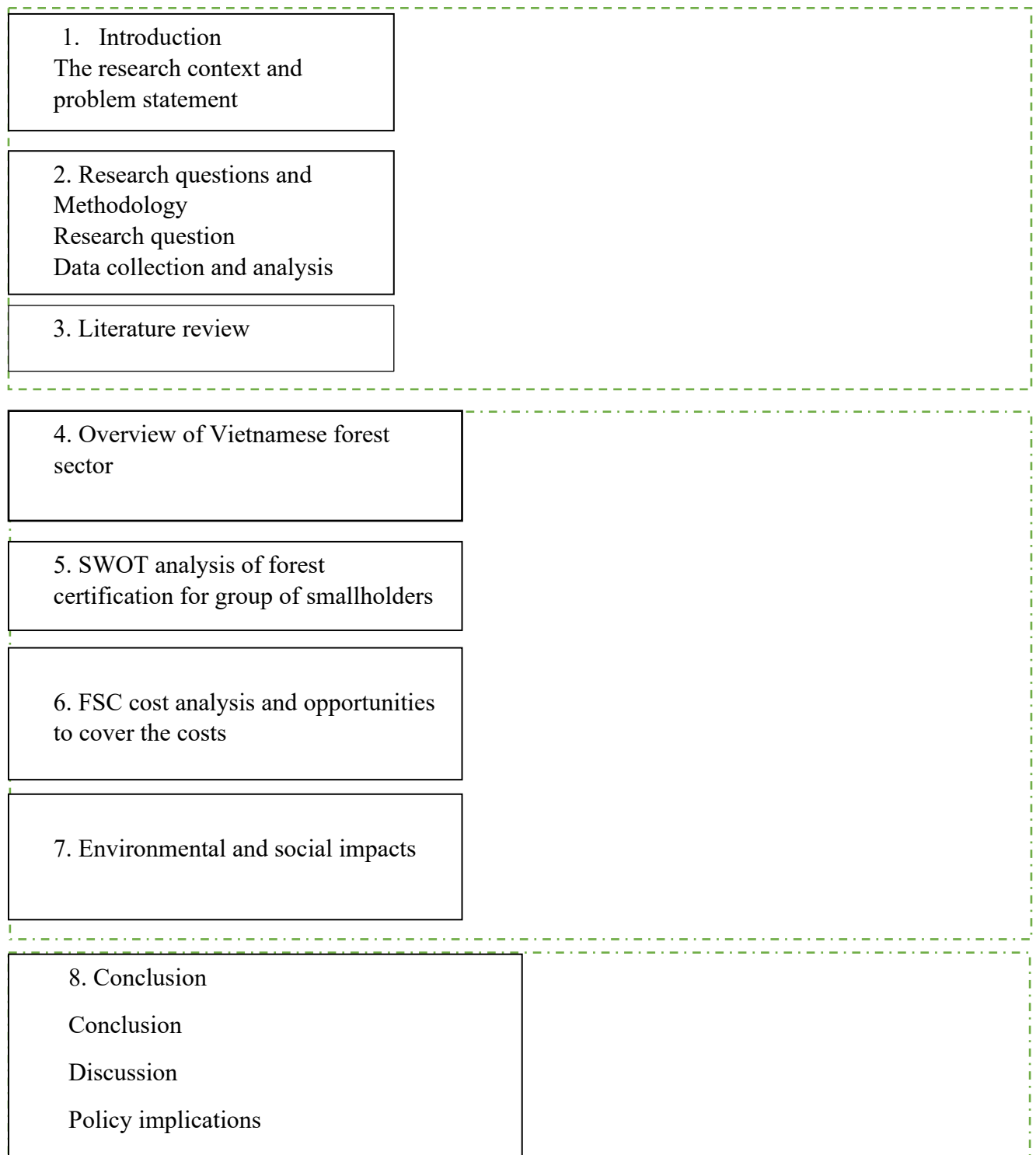


Figure 6. Structure of the thesis

## CHAPTER 3: LITERATURE REVIEW

### 3.1. Sustainable development and forest certification

According to International Tropical Timber Organization: *SFM is the process of managing forest to achieve one or more clearly specified objectives of management with regard to the production of a continuous flow of desired forest products and services without undue reduction of its inherent values and future productivity and without undue [undesirable effects on the physical and social environment.*

With this definition, the sustainable management has to ensure many points such as the forests' capacity to provide environmental services and goods- such as timber, non-timber products; conserve forest soils, water and biodiversity; support the livelihood of forest-dependent communities; bring economic benefits to the forest owners/managers. etc. In general, sustainable forestry should be ecologically sound, economically viable and socially desirable (Sample, 1993).

In order to sustainably manage the world forests, there have been two main policy approaches adopted, i.e. top-down and bottom-up. In the top-down approach, policies are formulated and imposed from the highest levels of government to the lower authorities. Therefore, efficiency heavily depends on capacity of the governing body and in many cases, the policies from the top do not reveal or reflect the needs of "bottom classes". On the other hand, the bottom-up approach bases on a more participatory approach. Theoretically, policies are formed upon the needs and agreements of the public. Hence, it is claimed the bottom up enhance the role of local authorities as well as make the implementation processes more effectively. However, the fact is these traditional efforts were not sufficient to prevent the loss of natural resources. Human being activities such as timber exploitation, land use conversion for agriculture and livestock raising, construction, urbanization, ect... happened everywhere

resulting in the loss of forest area dramatically. From 1980s, the world forest resource has been degraded, especially in the tropics. According to global forest resources assessment by FAO (2020), 178 million ha of forest has disappeared since 1990. The forest loss mainly happens in tropical countries, and the rate of forest loss in the low-income nation (Rodney et al. 2015)

Obviously, traditional forms of forest governance have been not sufficient to protect the world forest, therefore, raising the needs for new approach. In late 1980s the concept of forest certification emerged as a market based approach to promote the exclusive goal of sustainable forest management (M. K. Haener, 1998). However, not until 1993 that FSC was born, after the failure of governments to sign a global forest convention in Earth Summit in Rio. Transnational group, leading by -WWF formed the FSC organization to help monitor and label products that were sustainably produced.

Forest certification is the process that a certification body judges the forest management in accordance to a certain set of criteria. Successful process will result in the provision of certificate to the forest owner/manager. The objective of certification is to connect the consumer who care about or want to use environmentally and/or socially responsible products with the producers or providers of these products.

Forest certification is a significant tool for achieving sustainability through the global marketplace for forest products (Cashore et al. 2004). It has played the largest role in improvement of social, ecological and economic aspects of forest management practices during the post-Rio period (Putz, 2001).

FSC accredits some organizations to check the forest management according to its standards. Most of the FSC certification processes will start with an internal audit in order to check the feasibility before conducting the official audit. The full audit includes field visit, document checking and stakeholder consultation. Corrective action requests are proposed so that the forest management unit can adjust their management practice compliant with FSC

criteria. Successful compliance leads to the reward of FSC certification, which is valid for 5 years and requires annual audit. Reassessment has to be conducted every 5 year to renew the certificate.

There are different forest certification schemes around the world but FSC and PEFC (the Programme for the Endorsement of Forest Certification) are the two dominant ones, in which the FSC certification scheme is considered to be the most successful and well-known one.

The FSC certification scheme has established international principles and criteria for environmentally and socially responsible forestry. Although voluntary in nature, the forest certification derive authority through markets and has been described as “non-state market driven” (NSMD) governance with distinctive characteristics (Cashore 2002; Cashore at al. 2004). As a “non-state market-based” mechanism, forest certification obtains its authority not from the state, but from customer decisions within the marketplace (Table 5). The certification labels are proof that timber, pulp or paper, which producers and retailers sell, has the origin from well-managed forests .

Incentive to pursue the forest certification is made via the promises of price premium and market exclusion (the product may be refused to enter a country without certification). Therefore, forest certification has been viewed as an instrument to make forest owners and managers adjust their practices in order to improve environmental sustainability and social responsibility (Klingberg 2003, Lewin et al. 2019).

Table 5. Key Conditions of NSMD Governance

Role of the market	Products being regulated are demanded by purchasers further down the supply chain
Role of the state	State does not use its sovereign authority to directly require adherence to rules

Role of stakeholders	Authority is granted through an internal evaluative and broader civil process society
Enforcement	Compliance must be verified

Source: Cashore 2002

### 3.2. Different ways of viewing forest certification

Forest certification is a new phenomenon and soon after its emergence, it quickly become a worldwide forestry phenomenon and attracts the interest of many scholars. There have been different ways of viewing and explaining FC. According to (Cashore 2002; Durst et al. 2006) it is a voluntary market-driven mechanism to promote sustainable forest management by providing forest owner market-derived incentives such as improved market access and/or potential of price premium. Similarly, Klooster (2005) considered FC as an attempt of NGOs to influence the wood commodity network. The appearance of Forest Stewardship Council (FSC) program was to turn to the market for influence by certifying forestland owners and forest companies who practiced “sustainable forestry” according to FSC rules, thus expanding the traditional “stick” approach of a boycott campaign by offering carrots as well (Cashore 2002).

Explaining how FC can archive its support in many countries, Bernstein and Cashore (2012) have suggested 4 pathways that forest certification gains its legitimacy, which includes:

**(i) International rules or laws** have impact on any domestic policy since they create obligations, especially in the arena of globalization, losing “market share” and “investor” are 2 big factors pushing the country to comply. In the field of forestry, there are many important forest-related agreements such as forest law enforcement, governance and trade (FLEGT) and Convention on Biological Diversity. In general, the international forest governance initiatives try to create impact on domestic practices such as land-use change and logging. In which,



FLEGT is an effort from Europe trying to reduce illegal logging by strengthening sustainable and legal forest management, improving governance and promoting trade in legally produced timber. The EU has negotiated FLEGT ‘voluntary partnership agreements’ (VPA) with exporting countries in Africa and South-East Asia including Vietnam.

**(ii) International norms and discourses.** Discourse is defined as ‘a specific ensemble of ideas, concepts, and categorizations that are produced, reproduced, and transformed in a particular set of practices’ (Hajer 1995). In general, norms and discourse regulate appropriate behaviors. According to the two authors, the representative example for norms in the forestry sector is Sustainable Forest Management (SFM) which is now spread all over the world.

**(iii) Market pathway:** As markets for forest products have become strongly globalized, there are many trade regulations and standards, affecting to both export and import countries. The most important development in terms of the market transactions pathway has been forest certification, which is considered as a market-based instrument. Market incentives such as price premium and market access are two most often quoted benefits of forest certification in the world.

**(iv) The fourth pathway is direct access to domestic policy-making processes:** including processes that provided by non-domestic financial resources via technical knowledge, expertise, and training. These interventions often aim to enforce the capacity of domestic governments and likely to dramatically shape domestic politics. Despite being the least explored among the four pathways, the direct involvement of international forest institutions and transnational actors in domestic policy processes has arguably had the biggest impact. This pathway often found in the form of capacity building. A range of international aid agencies, NGOs and educational institutions has travelled this pathway in the last 20 years.

Findings of Bernstein and Cashore (2012) are very important in the efforts of analysis of the global resource governance with respect to how global economic and global institutional mechanisms' shape domestic policies. They have paid attention to the context in which policy modifies and develops, not only on the changes themselves.

Certification has largely influenced the environmental, social and economic performance of certified forestry businesses in multiple ways.

In environmental aspect, the impacts of forest certification is often evaluated regarding those issues: deforestation; Biodiversity and conservation (flora and fauna species, endangered, threatened and vulnerable species); Forest management practices.

In social aspect, impacts of local communities and other stakeholders as well as forestry workers (such as the benefits of labor, child labor usage, etc...) are often taken into account.

In economics aspect, costs, revenues, access to environmentally sensitive markets and the premium prices for certified timber are popular issue in evaluation.

Generally, the implementation of forest certification has varied considerably from country to country because the local context (e.g. policy and government support) shape and affect certification decisions (Malets, 2014; Keskitalo et al., 2009; Tysiachniouk and Meidinger, 2012). Despite the positive judgment about forest certification as a NSMD governance, its effectiveness in achieving environmental outcomes still controversial. Studies have also shown that the certified forests mainly located in Europe and North America rather than in developing countries where forest management standards are relatively low compared to developed countries (Gulbrandsen 2005, E. Rametsteiner, 2003). From this perspective, the environmental effectiveness may be less because the forest management units in developed world almost or already meet the sustainability standards of certification scheme. Such critique highlights the importance of examining the growing challenges and impacts of forest certification on different region and country, with different types of forest ownership.

In view of function, forest certification has been labeled for many roles and functions. In the field of wooden industry and trade, it is an instrument for marketing campaigns of environmentally friendly products or enter/maintain the access to some certain markets. For buyers and consumers who care about environment protection, certification label provides information about products they purchase, whether it come or uses timber from sustainably managed sources. Certification is also used as a tool for market access or gaining market advantage for forest owners and managers. Governments see it as soft policy instrument to promote sustainable forest management. (E. Rametsteiner, 2003).

Worldwide, forest certification has been accepted as a market-based instrument (Nussbaum and Simula,2005). They assumed that the consumers would agree to pay more for certified products, then the benefits of price premium would be shared to FSC producers and forest owners. In this sense, the requirements and availability of markets to certified forest products, therefore, is crucial for the success of forest certification.

In research of Overdeest and Rickenbach (2006), they assumed 3 groups of mechanisms that a forest certification system performs, which are market-based (economic motives or seeking for the potential market benefits), signaling (certificate holders make many efforts to meet high standards in their forest practices and management) and learning (view certification as a learning and technology transfer mechanism). This hypothesis again was tested and proved by Araujo et al. (2009) for explaining Brazilian companies when certifying their forests. He concluded that 3 mechanisms proposed by Overdeest and Rickenbach (2006) are validated in Brazil, though interestingly, market incentives are not ranked important for Brazilian companies in deciding upon forest certification.

The fast expansion of certified area in the world has raised the question of motivations of why forest management unit get the forest certified. Some of them have the same conclusion that the institutional and social context under which firms and forest land owners seek

certification matter (Kooten, Nelson, & Vertinsky, 2005). For instant, the higher the level of exports, the more motivated firms and forest landowners will be to seek certification. This can be explained by the push from foreign market since for a country dependent on trade or foreign capital, the fear of losing market share and investor confidence can be motivations to follow international rules (Cashore 2012). Especially, if the share of a country's timber exports is to regions where eco-sensitive is, it could be an important influencing variable for decision of certification uptake in order to cope with market requirement on timber legally sourced usage. Besides, often in developed countries, where political, economic and social institutions are more advanced, firms are more likely to seek certification voluntarily (Kooten et al., 2005). Obtaining a forest certificate is necessary to prove the company social and environmental responsibilities and more over, keep and widen market share (Owari, Juslin, Rummukainen, & Yoshimura, 2006)

In a research in USA, (Hayward & Vertinsky, 1999) has found out that non-industrial private forest owners sought certification as a part of their business as the contracts require. They accept the certification cost in order to improve their practices. On the other hand, industrial private, public, and professional resource managers viewed price premium because of trading certified wood.

In Ghana cases, study of 8/224 timber firms have revealed that customer demands, prospects of increasing market shares, and a perceived need to invest in resource productivity are the main reasons for certification uptake.

Bolivia case, Epinoza and Dockry (2014) have summarized that there are several factors supporting the FC such as government and forestry regulations, Nongovernmental organization (NGO) support for certification and International (financial and technical) support for certification.

In Russia, the adoption of forest certification is considered as an effort of the Russian government in improving the forest management system of the country, and foster the participation of industry sector as well as develop market. Forest resource in Russia in the past was “excessive, often illegal logging”, meanwhile, exporters are required to prove the legality via a certification scheme (Ulybina and Fennell 2013)

**Table 6. Factors affecting to forest certification uptake in some countries**

Countries/Authors	Factors
Ghana	<ul style="list-style-type: none"> <li>• Customer demands,</li> <li>• Prospects of increasing market shares,</li> <li>• Resource productivity investment.</li> </ul>
Bolivia	<ul style="list-style-type: none"> <li>• Government and forestry regulations,</li> <li>• NGO support for certification,</li> <li>• International (financial and technical) support for certification.</li> </ul>
Russia	<ul style="list-style-type: none"> <li>• Failure and weakness of state institutions in applying an effective forest management,</li> <li>• Companies’ obligation to comply with international requirements, their awareness to improve forest management; Ethical attitudes and values of individual managers,</li> <li>• Profit maximization and desire to reduce companies' expenses — through limiting companies' social responsibilities and potentially reducing the amount of forestry works</li> </ul>

**Source: Synthesized**

### 3.3. Benefits of certification

Forest owners expect many benefits from certification, hoping that they will exceed the costs. In literature of forest certification, scholars have different way in analyzing benefits that forest certification brings.

Benefits of forest certification could be grouped in 3 aspects in accordance with its mission (*environmentally sound, socially beneficial and economically prosperous management of the world's forests*). In China case, Zhao et al. (2011) has listed out benefits of certification under 3 aspects as in Table 1. Also a research in China, (Chen, Innes, & Kozak, 2011; Juan Cheb, 2011) has collected benefits of forest certification from view point of Chinese forest products manufacturers. The most popular perceived benefits included “Improve market access/exports”, “image”, “helps to mitigate resource shortage”, “increase customer requests”, and “facilitates corporate responsibility efforts”. Generally, market benefits are the strongest driver to a forest enterprise/companies’s commitment to certification (Bowers et al. 2012).

Moore et al. (2012) in his research in North America divided benefits into economic and non-economic types. Economic benefits mostly refer to the premium prices for certified timber. Non-market benefits included improved staff capacity and operational efficiency, organizational image demonstrating strong environmental responsibility and social improvement (Leslie 2004), conducting good forest management (Baharuddin and Simula 1997, Leslie 2004).

**Table 7. Possible benefits from forest certification**

Item	Main content
Forest management	(1) Enforce relevant laws and regulations
	(2) Create environmental monitoring plans
	(3) Improve scientific forestation using native species

	(4)	Educate employees and contractors
Ecological benefits	(1)	Preserve unique and fragile ecosystems; manage to sustain site productivity
	(2)	Maintain diversity in forest composition and structure of forests
	(3)	Preserve the diversity of plant and animal habitats; protect endangered species and their habitats; control illegal hunting, fishing and trapping
Social benefits	1)	Establish trust with native (indigenous) people
	2)	Enhance local infrastructure
	3)	Inform, train and educate managers, employees and locals

Source:(Jingzhu Zhao, 2011)

### 3.4. Costs of certification

Obviously, the costs depend on many factors such as the charge from third party, nature and size of the management unit being certified (Innes, 2005) as well as capacity of forest owner/manager, as a result, the costs per hectare of the actual audit vary.

Costs in can be categorized as direct or indirect. Direct cost is the fee to process the first audit and annual audit such as: data collection; management plan preparation; aboriginal consultation; monitoring costs (active monitoring is required by all standards); and staff training. Nevertheless, such direct costs tend to be higher for developing countries, because most certifiers are based in Europe and North America, require air travel, and have extremely expensive fees and incomes compared to locals.

Indirect costs include the additional costs for human resources, monitoring activities, changes in forest management or harvesting activities, forestry practices as response to corrective action requires after the audit, etc.

It is generally agreed that the costs continue to be a substantial inhibiting factor in many developing countries. In order to reduce unit costs, group certification made certification affordable for forest owners and managers, especially those who own and manage small forests. Economies of scale can be reaped by small forest owners while retaining control of their forests. Costs are significantly reduced because it is only necessary for the certifier to conduct a single audit, instead of individual audits of each member's forest. Certification agencies are aware of this issue and attempting to address the problem of costs to small forests. One example is the recent introduction of new FSC guidelines for small, low-intensity managed forests (See FSC.org) that will help owners of small forests lower certification costs.

Table 8. Estimates of the costs of certification assessments in several countries

Country/Author	Cost Estimates for Certification Assessments
Brazil	US\$20- \$100 per ha for small operations US\$0.60- \$140 per ha for large operations
Finland	>30 ha: average US\$24 per ha, >50 000 ha: US\$0.40 per ha, >1.4 million ha: US\$0.02 per ha.
Indonesia	US\$0.2- \$0.4 per cubic meter
Malaysia	US\$0.22 per hectare for a 100.000 ha concession.

Source: Elliot (2000)



### 3.5. Challenges of forest certification: The differences between developed and developing countries in certification

The origin of the forest certification is from mature economies (Flanagan et al., 2020) and not all of its content is appropriate for the operating in developing countries, not to mention that the economic and management capacity gap between developed and developing countries are well known. The requirements from certification scheme create many challenges, considering the fact that the small-scale forest owners in developing countries often grow their trees on degraded or unsuitable land (Flanagan et al. 2020).

Durst, McKenzie, Brown, and Appanah (2006) has summarized some disparities between developed and developing countries which appears to become five major constraints for them to get certified, including: (i) there is a low demand for certified products on global markets; (ii) management standards and certification requirements are lacking; (iii) sector policies are inadequately formed and implemented; (iv) national certification standards and procedures cannot be developed; (v) certification costs are high.

In addition, as some scholar pointed out that certification has failed its original objective of protecting tropical forest but most of the certified area are in boreal and temperate zones (Schepers 2010) (Table 9).

Table 9. FSC certification in the world (area in hectare)

As of Sept. 2023	North America	Latin America	Europe	CIS	Asia-Pacific	Oceania
FSC certified area (ha)	61,165,173	18,354,927	56,625,841	4,774,006	9,245,343	10,047,760
No. of FM certificate	139 FM certificates	400 FM certificates	455 FM certificates	101 FM certificates	359 FM certificates	61 FM certificates

Source: FSC facts and figures  
<https://connect.fsc.org/impact/facts-figures>

Certification schemes themselves have realized the necessity to adjust their approaches in developing countries. For example, the FSC has applied its approach initiative to smallholders or small and low intensity managed forest (SLIMF). Nevertheless, the certified smallholder forest comprises a very small proportion of the national forest area (in Vietnam case is 1.4%, FSC 2019). There are many reason explaining for this such as the high cost of certification as mentioned above, others include the technical barriers and the smallholders themselves do not apply advanced planning, intensive silviculture for their forests, instead, they prefer a quick rotation cycle (Hoang et al., 2015).

### **3.6. Conclusions**

The current literature about forest certification shows the fact that the majority of the certified forest area is located in temperate and boreal climate zone (not in tropical countries where the forest degradation is serious), and a focus on developed countries where the forest owners' expertise has been higher compared to those in developing ones.

Though the policy makers of the forest certification have been trying to accelerate more forests in the tropical zones to be engaged in the certification, there are still many obstacles includes financial barrier to get the forests certified and other issues such as the changes in administrative structure for the group management, and forest management strategy to meet the technical standards of the certification scheme, therefore, raising question is certification accessible and sustainable, especially for the small-scale forest owners.

## REFERENCES

- Araujo, M., Kant, S., & Couto, L. (2009). Why Brazilian companies are certifying their forests? *Forest Policy and Economics*, 11(8), 579-585. doi:<https://doi.org/10.1016/j.forpol.2009.07.008>
- Barney, K. (2005). *Central Plans and Global Exports: Tracking Vietnam's Forestry Commodity Chains and Export Links to China*.
- Boakye-Danquah, J., & Reed, M. G. (2019). The participation of non-industrial private forest owners in forest certification programs: The role and effectiveness of intermediary organisations. *Forest Policy and Economics*, 100, 154-163. doi:<https://doi.org/10.1016/j.forpol.2018.12.006>
- Cashore, B., Auld, G., & Newsom, D. (2004). *Governing Through Markets: Forest Certification and the Emergence of Non-State Authority*
- Castella, J.-C., Boissau, S., Hai Thanh, N., & Novosad, P. (2006). Impact of forestland allocation on land use in a mountainous province of Vietnam. *Land Use Policy*, 23(2), 147-160. doi:<https://doi.org/10.1016/j.landusepol.2004.07.004>
- Chen, J., Innes, J. L., & Kozak, R. A. (2011). An exploratory assessment of the attitudes of Chinese wood products manufacturers towards forest certification. *Journal of environmental management*, 92(11), 2984-2992. doi:<https://doi.org/10.1016/j.jenvman.2011.07.012>
- Cuong T, C. T., Zhang Y, Xie Y. (2000). Economic Performance of Forest Plantations in Vietnam: Eucalyptus, Acacia mangium, and Manglietia conifera. *Forests*, 11(3). doi:<https://doi.org/10.3390/fl11030284>
- Durst, P., McKenzie, P., Brown, C., & Appanah, S. (2006). Challenges Facing Certification and Eco-Labeling of Forest Products in Developing Countries. *193 International Forestry Review*, 8. doi:10.1505/ifor.8.2.193
- Ebeling, J., & Yasué, M. (2009). The effectiveness of market-based conservation in the tropics: Forest certification in Ecuador and Bolivia. *Journal of environmental management*, 90(2), 1145-1153. doi:<https://doi.org/10.1016/j.jenvman.2008.05.003>
- Elliott, C. (2000). *Forest certification: a policy perspective*. Center for International Forestry Research (CIFOR).

Haes, H., Snelder, D., & Snoo, G. R. (2008). The Potential of Sustainable Forestry Certification for Smallholder Tree Growing. In (pp. 207-226).

Hajjar, R. (2013). Certifying small and community producers in developing countries: prospects for adoption and diffusion. *Forests, Trees and Livelihoods*, 22(4), 230-240. doi:10.1080/14728028.2013.837411

Hayward, J., & Vertinsky, I. (1999). High Expectations, Unexpected Benefits: What Managers and Owners Think of Certification. *Journal of Forestry*, 97(2), 13-17. doi:10.1093/jof/97.2.13

Kooten, G. C. v., Nelson, H., & Vertinsky, I. (2005). Certification of sustainable forest management practices: A global perspective on why countries certify. *Forest Policy and Economics*, 7, 857-867. doi:10.1016/j.forpol.2004.04.003

Innes, J., & Hoen, H. (2005). *The changing context of forestry*: CABI.

McNamara, S., Tinh, D. V., Erskine, P. D., Lamb, D., Yates, D., & Brown, S. (2006). Rehabilitating degraded forest land in central Vietnam with mixed native species plantings. *Forest Ecology and Management*, 233(2), 358-365. doi:https://doi.org/10.1016/j.foreco.2006.05.033

McElwee, P. (2016). *Forests are Gold: Trees, People and Environmental Rule in Vietnam*.

Rametsteiner, E., & Simula, M. (2003). Forest Certification—An Instrument to Promote Sustainable Forest Management? *Journal of environmental management*, 67, 87-98. doi:10.1016/S0301-4797(02)00191-3

Putz, F. E., & Romero, C. (2001). Biologists and Timber Certification. *Conservation Biology - CONSERV BIOL*, 15, 313-314. doi:10.1046/j.1523-1739.2001.015002313.x

Truong, D. M., Yanagisawa, M., & Kono, Y. (2017). Forest transition in Vietnam: A case study of Northern mountain region. *Forest Policy and Economics*, 76, 72-80. doi:https://doi.org/10.1016/j.forpol.2016.09.013

Owari, T., Juslin, H., Rummukainen, A., & Yoshimura, T. (2006). Strategies, Functions and Benefits of Forest Certification in Wood Products Marketing: Perspectives of Finnish Suppliers. *Forest Policy and Economics*, 9, 380-391. doi:10.1016/j.forpol.2005.10.005

Ulybina, O., Fennell, S. (2013). Forest certification in Russia: Challenges of institutional development, *Ecological Economics*, 95, 178-187, ISSN 0921-8009, <https://doi.org/10.1016/j.ecolecon.2013.09.004>.

Zhao, J., Xie, D., Wang, D., & Deng, H. (2011). Current Status and Problems in Certification of Sustainable Forest Management in China. *Environmental management*, 48(6), 1086-1094. doi:10.1007/s00267-011-9620-9

# **CHAPTER 4: OVERVIEW OF VIETNAMESE FOREST SECTOR**

## **4.1. Introduction**

In the previous chapter, I introduced the methodology and methods appropriate to address my research questions concerning the effectiveness of forest certification. I also highlighted the importance of certification for small-scale forest owners in Vietnam. In order to understand the overall context of the country framework for forest management, as well as the possible explanation for the question of why the Vietnamese government support the development of small-scale forest and its certification this chapter focus on clarifying the context, which the forest certification for group of small holders develops.

In details, this chapter provides the national forest management system and impacts from foreign market (international forestry regimes) to the development of FSC certification in Vietnam. In so doing, government documents, official reports, media information, national laws and regulations, and empirical field-based evidence are used for the analysis.

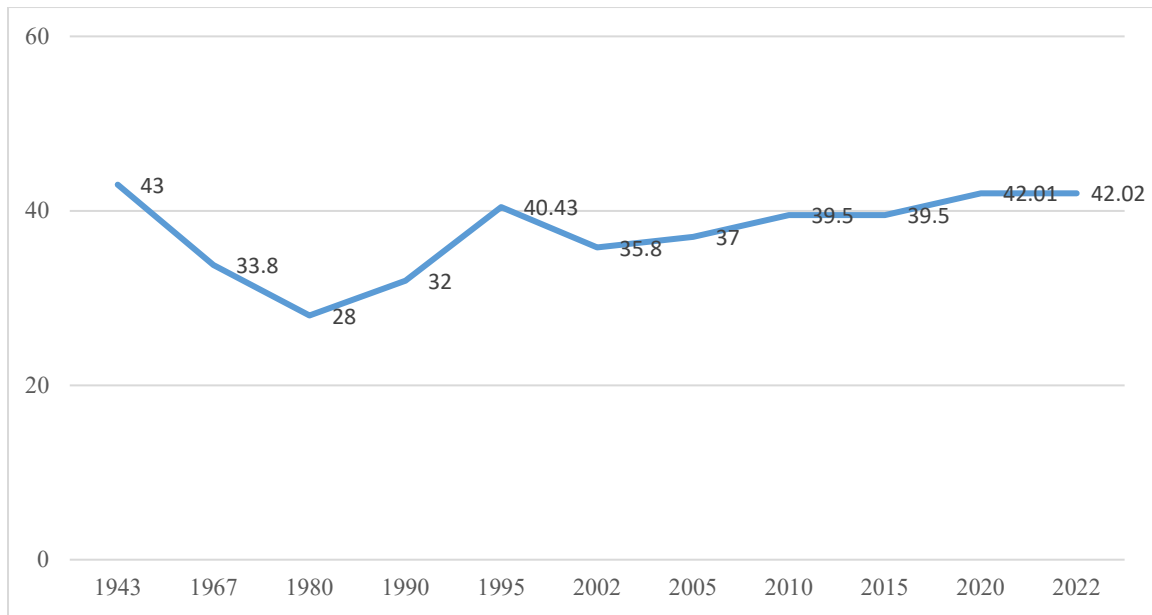
## **4.2. General background of the country**

In the period 1945-1975 Vietnam government applied the centralized management of the forest resources and exploited forest for economic recovery after the wars (Dang, 2012 ). The deforestation was high this period due to several reasons such as agricultural expansion using slash and burn practice (Meyfroidt, 2008). In addition, people cut timber for local and urban needs (McElwee, 2004). Forest cover was at its lowest in the late 1980s–early 1990s (Figure 7), when it covered around 25% of the territory and only 17% of the northern mountain (Meyfroidt, 2008)

In order to end the severe forest degradation, from 1990s the Vietnam government imposed a logging ban, and gradually transferred from a centralized state forest management to a socialized forestry by distributing forest land-use rights to individual household (Castella, Boissau, Hai Thanh, & Novosad, 2006). The 1993 Land Law recognized local communities and individuals as legal recipients of forest and land-use rights. It introduced a system for the allocation of forestry land to households and individual. For the first time in the history, households in Vietnam were given long-term rights to use, transfer, exchange, inherit, rent, and mortgage land. Land allocation had the goal of better forest management, assuming that people would be more interested in forest protection and management of the forest resources if they got formal rights for the benefits from the forest.

At the same time, in the effort of recovering forest cover rate (Figure 7), the Vietnam government has implemented many tree planting campaigns such as program via Decree 327 (in 1992) and its successor, the Five Million Hectare Reforestation Programme (started in 1998). These are two important national program on re-greening of barren hills. Thanks to that, the forest cover has increased in Vietnam, from 25–31% of the country area in 1991–1993, and then increased to 32–37% in 1999–2001 through natural regeneration and the extension of tree plantations (Meyfroidt, 2008)

In parallel with the expansion of plantation forest area, the wood processing industry also developed quickly. Vietnam is one of the world's largest exporters of timber and timber products, whose export value amounted to \$9.4 billion in 2019.



**Figure 7. The change in forest cover rate in Vietnam**

Vietnam is the second largest furniture exporter in Asia and the Pacific and the fifth largest worldwide, and the largest woodchip supplier (World bank 2019). Acacia plantations managed by smallholder farmers are the main suppliers for the woodchip industry. Acacia species trees are the most popular plantation trees in Vietnam, for both pulp- and sawlogs. Acacia can be harvested at 4-6 year, create a quick revenue for farmers. This short rotation (compared to longer rotation from 7 years for sawlogs) is preferred for small scale farmers because they afraid of the risk of loss due to typhoons and disease (Hoang et al. 2015)

By employing the international pathways framework model developed by Bernstein and Cashore (2012) this chapter aims to figure out the way forest certification gain their recognition in Vietnam. How international forest regimes have affected the changes in forestry policies and to what extent, have shaped the direction of Vietnam's forest policy and policymaking processes in general and with the focus on forest certification development. The application of the international pathways framework model was chosen since it simplifies the complex global forest governance arrangements, allowing for a better understanding of how Vietnam's domestic forest policy has been influenced by the global forest governance arrangements.



## 4.4. Findings and Discussions

### 4.4.1. International rules and laws:

Several forest-related international declarations and instruments have been signed by Vietnam, which have had significant impact on the country's forest policy. The following examples illustrate the extent of influence of such agreements on the Vietnam forest policy and the policy-making process with the 2 important agreements, which are Convention on Biological Diversity (CBD) and Forest Law Enforcement, Governance and Trade (FLEGT)

#### - **Convention on Biological Diversity**

Soon after ratifying the Convention on Biological Diversity (or Biodiversity convention) in 1994, the Vietnamese government adopted National Environment Action Plan and the Biodiversity Action Plan (BAP) in 1995. The BAP was a response to international obligations under the Biodiversity Convention. BAP formulates a policy framework to protect Vietnam's biodiversity, proposes a national strategy to address new challenges and promote sustainable growth, recognizes the impact of global and sectoral economic development on biodiversity, advocates the realization of sustainable development, and has become a guide for Vietnam Legal document for all biodiversity conservation activities. One important contents of BAP was the suggestion of further economic policy research and development of property rights and ownership of biodiversity resources. Based on this suggest, the government has fostered the allocation of forest and forestland to grass-root people, leading to a transition in structure of forest tenure.

The second NBAP to 2010 and its 2020 orientations were prepared in 2006, and the Prime Minister gave it his approval on May 31, 2007. In general, the majority of the public goals for biodiversity preservation given in the NBAP 2007 were predictable to key targets of the CBD.

Soon after that, the government passed the Law on Biodiversity in 2008. This Law allowed piloting payment of environmental services, promoting land and forest allocation, diversifying income sources for protected areas, delivering more funding for environment and biodiversity research and conservation, those together have enhanced the biodiversity conservation in the country.

In short, the CBD has contributed to the shift from a forestry which focused on timber exploitation (in order to recover the economy after long wars), towards a more balanced sector between logging and conservation of forest resource.

#### **- FLEGT in Vietnam**

Preparations for the Voluntary Partnership Agreement (VPA) between Vietnam and the European Union (EU) started in 2010; officially went into effect on June 1, 2019. One of the main commitments of the agreement is that Vietnam will tightly control timber sources in the whole supply chain. The VPA is an instrument that aims to ensure that all timber traded in the EU is obtained from legally recognized sources and since the EU is a major market destination for Vietnam's furniture products, this agreement will create impacts on Vietnam timber industry. The VPA introduces the Legal Assurance System (LAS). Under the LAS, a timber legality standard (a comprehensive definition of what is legally produced timber and what laws must be followed to meet legality standards) is formulated and currently Vietnam and EU have held 4 meetings on this issue.

Many organizations and stakeholders are involved in the VPA process: The government, the Ministry of Agriculture and Rural Development and the statutory body in charge of forest management, the Administration of Forestry are in charge of negotiating the VPA. Representatives of other relevant government ministries and agencies such as Ministry of Finance, Ministry of Foreign Affairs, Ministry of Industry and Trade, Vietnam Timber and

Forest Product Association, as well as a range of stakeholders are also involved, including civil society, the timber industry (large, medium and small companies) and local communities. This multi-stakeholder approach to the VPA has supported the democratization of forestry policy in Vietnam; stakeholders are not only consulted, but are actively involved in policy development as somewhere else in the world (Mbatu R. S. 2016).

From 2019, the FLEGT became effective and Vietnam issued the Vietnam Timber Legality Assurance System guiding documents for timber harvesting, transporting, trading and processing as requirements in order to obtain FLEGT licenses. Companies with forest certification receive benefit/advantage because it is considered as a proof of timber's legality (Circular 28/2018/TT-BNNPTNT on Sustainable Forest Management )

#### 4.4.2. The national strategy for sustainable forest management

According to Cashore (2009), “good forest governance” include: inclusiveness, transparency, openness and accountability and the most prominent norm diffusion from international to domestic arena is sustainable forest management (SFM). SFM is widely accepted with the definition that “products and social, cultural, and environmental services provided by forests meet the needs of the current generation, while at the same time maintaining their availability for the development needs of future generations”. Criteria and indicators for sustainable forest management were developed and supported by ITTO. In Vietnam SFM is a popular term, which can be easily, found in forest-related documents.

According to Dang (2012), SFM and forest socialization are 2 discourses of Vietnam forest. One important factor supporting for SFM in Vietnam is the devolution of forest ownership rights via land allocation and the enhancement of tenure rights. The involvement of lower level authority and non-state actors such as market actors, networks,

NGOs, and citizens is deemed essential for enhancing the efficiency, excellence, and credibility of decisions, as well as guaranteeing sustainable development.

When the Vietnamese government decided to shift from a centrally planned economy to a market-oriented one from 1986, some important reforms happened. The forest sector changed from state-controlled sector towards community managed one. The forests resource was allocated to different forest users (including organizations and individuals). The forestry sector has promoted a participatory approach and encouraged the participation of the private sector for forest protection and production. Decree 23 of 2006 made it possible for individuals and organizations to rent and lease land. Decree 106 in 2004 and Decree 20 in 2005 empowered conditions for households participating in the government's forest plantation program to access government credit. Furthermore, Decision 147 in 2007 and Decision 131 in 2009 provided accessibility to government loans for the establishment of plantation forests and other production activities. The collaboration of plantation forests with the wood processing sector was guided by the MARD's document 1186 in 2009.

Policies of decentralization have decreased the forest area under state-management fell from 80.1% in 2000 to 45.2% in 2015; Households and individuals were allocated 3,146 million ha. Some big afforestation program such as the 327 Program (1993-1998) and 5 Million hectares Afforestation Program (1998-2010) have increased the forest area (Figure 2)

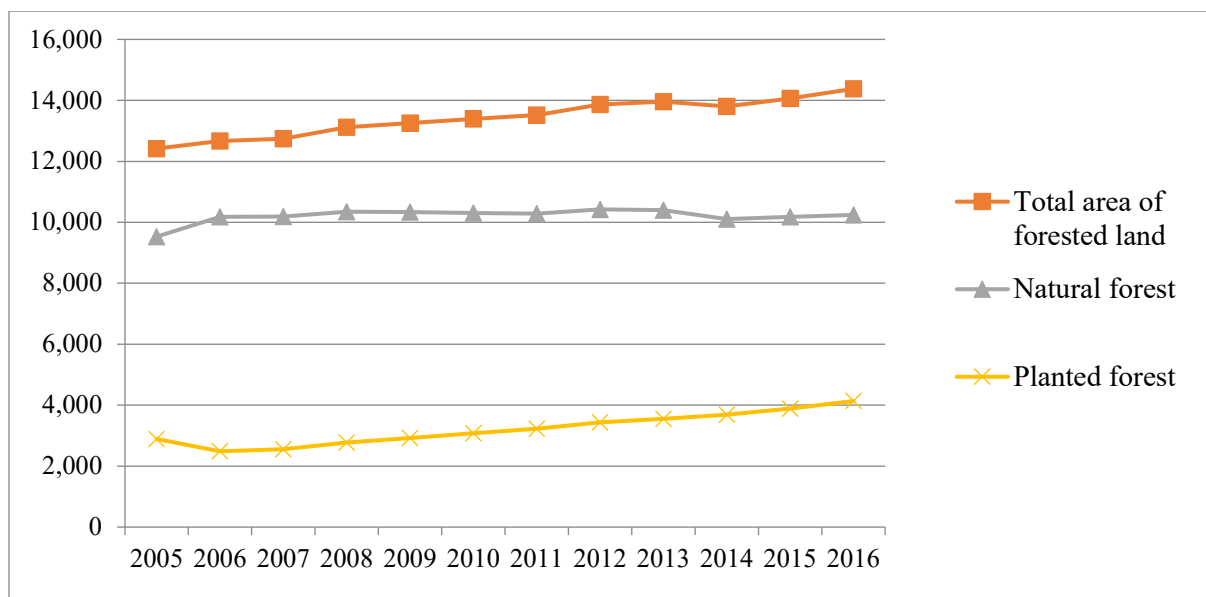


Figure 8. Forest status of Vietnam from 2005 to 2016 (Unit: Thousand Ha)

Sources: General Statistics Office, Statistical Yearbooks 2005 – 2017

However, the value of plantation forest in Vietnam is low as most of the area is for wood chip purpose production with short rotation. The revenue is not high and timber quality does not meet the domestic demand and exportation (Hoang et al. 2015, Maraseni et al. 2017).

In order to increase the economic value of timber products and contribute to meet domestic demand and export to the world market, the forest sector of Vietnam have supported the forest certification. The government have issued documents to guide the implementation of forest certification such as Circular 28/2018/TT-BNNPTNT on sustainable forest management.

#### 4.4.3. Market pressure: the globalization and booming of wood industry

In the study in Indonesia, Tacconi (2007) pointed out that NGOs such as the Environmental Investigation Agency, The Nature Conservancy and WWF attempted to use the foreign- market dependence to bring about change to policies concerning illegal logging (e.g.: they attempted to organize boycotts of Indonesian timber products in Europe and to influence

markets in China and Japan). Bernstein and Cashore (2012) further substantiated the fact that international actors can effectively utilize the foreign market dependence mechanism to exert pressure on a nation's domestic policy. This assertion has been validated in the context of Vietnam, as demonstrated by the willingness to adopt new policy tools such as the EU's FLEGT and the development of forest certification (Bowers et al. 2012)

Vietnam has opened to the outside world from the early 1990s under its renovation economic reform program. With respect to the forestry sector, in recent decades, Vietnam has rapidly built a dynamic wood processing industry, focusing on producing of wooden furniture (90% of its total furniture production is for exporting). According to the General Statistics Office of Vietnam (GSO), wood and timber products exports reached US\$3.4 billion in the first 9 months of 2012. The average monthly export value was US\$377 million, even up to US\$400 million in latter two months of 2012. Main markets include USA, China, Japan, South Korea and the EU.

However, as far as wood material is concerned, producers depend heavily on imported material. According to Meyfroidt and Lambin (2009) in the period 1987 to 2006, approximately half of wood imports to Vietnam were illegal.

Statistics from Vietnam Timber and Forest Product Association show that Vietnamese enterprises import 70% - 80% of their raw material wood from abroad, equivalent to 3 - 3.5 million cubic meters of wood per year, while the domestic material supplying market only meets 20%-30% of that total volume. Vietnam forestry sector is in crisis because the gap between the big demand from the wood processing industry and the limited supply of timber in domestic.

Not only the problem of finding enough material sources for production, Vietnam companies also face with the increasing concern from high environmental sensitive markets like Europe, USA, and Japan regarding legality and sustainability of the wooden products

(Pham 2009). To illustrate, Europe has expressed public concerns regarding the worldwide environmental effects of deforestation and the direct impact in timber exporting countries (FERN 2009), the European Union (EU) called for stricter arrangements by applying FLEGT-VPA with tropical timber exporting countries. It is to ensure that timber and timber products exported to the EU come from legal sources. Besides, USA market started the Lacey Act, a tool to control and prohibit all trade in plants or plant products— including timber and wood products - that are illegally sourced.

In order to enter such difficult markets, there are 2 main ways out, either domestic companies have to import FSC wood from overseas (thus product price is higher and value added of wood industry is less) or pursue a certification system. At the current time, FSC is the most popular certification scheme in Vietnam.

#### 4.4.4. Stakeholders in the forest certification in Vietnam

According to the Vietnam law on forestry, the Ministry of Agriculture and Rural Development (MARD) has the primary jurisdiction over forests. MARD is responsible for developing national forestry plans which guide decision-making on forest uses. Vietnamese government has a number of policies that directly impact development of forestry such as Law on Forestry 2017 (replacing the Law on Forest Protection and Development 2004); Land Laws (1990; 2003 & 2013; and The Environment Protection Law (2005; 2014), etc. Under the national level, there are lower levels of provincial and district and communal forestry offices to manage the forest resource (Table 10).

Table 10. Hierarchal forest management system in Vietnam

	<b>Main body</b>	<b>Belong agencies</b>
<b>National</b>	Ministry of Agriculture and Rural Development	Department of Forestry Forest Inventory and Planning Institute  The Forest Science Institute of Vietnam
<b>Provincial</b>	Department of Agriculture and Rural Development	Forestry Sub-Department
<b>District</b>	District People's Committee	Economics Division on Agriculture and Rural Development
<b>Commune</b>	Forest Protection Units	
<b>Household</b>	Private households	

As a developing country, foreign investment is very important to the social economic development of the country. One advantage for forestry development in Viet Nam is that the country received the assistance provided by many international organizations and from bilateral donors such as Sweden, Germany, the Netherlands, Japan and Finland.

The investment for forestry sector in Vietnam could be divided into 2 types: Official Development Assistance (ODA) and Foreign Direct Investments (FDI). In the view of international researchers, Vietnam has been quite successful in attracting FDI inflows since the inception of economic reform in 1986 and it has contributed significantly to the economic development of Vietnam. In the field of forestry, investment from foreign sources is very important since domestic support is not enough (Auer 2012).



As of 2005, the Forest sector support partnership, an institute managed by the Ministry of Agriculture and Rural Development (MARD), released official statistics indicating that there were 57 ODA projects providing funding to the forestry sector. These projects were valued at USD 434.8 million. Additionally, according to the GSO annual statistics publication issued in 2006, the agro-forestry sector attracted 504 FDI projects valued at USD 3,349 million between 1998 and 2006. The Trust Fund for Forest, an agency under MARD, manages the financial support for the Vietnam forestry sector.

Some organizations such as United Nations, World Bank, the Food and Agriculture Organization (FAO) have been major forces in the development of forestry sector in Vietnam based on their support on forestry programs and policymaking process (Table 11). For example: in 1990, the Ministry of Forestry, assisted by the United Nation Development Program, FAO and the Swedish International Development Agency, presented the 'Vietnam Forestry General Development Plan', which officially indicated a shift from state forestry to social forestry engaging multiple economic sectors and social actors in forestry (MARD, 2001). Soon after that, in 1991 the Law on Forest Protection and Development was passed, which stipulated the forestland allocation as the main strategy to socialize the country's forestry sector.

Examples of some other projects funded by international NGOs such as Vietnam–Australia Social Forestry Project, Song Da Social Forestry Development Projects (1998–2004) funded by German Technical Service, Vietnam–Swedish Mountain Rural Development Program funded by the Swedish International Development Agency, etc. have contributed to the socialization of Vietnam forestry (Dang 2012).

In addition, the recovery of forest area was also the results of international financial and technical support mainly with European development agencies such as German development bank, GTZ, especially in 5 million hectares of reforestation (from 1998 to 2000) program,

Vietnam received support from ADB, WB, EU, KfW, and JBIC in order to recover its forest area to 43% like in 1943.

WWF is one of the INGOs to support Vietnam in developing best management and national parks in Vietnam. WWF has supported the financial, technical and management capacity for local governments, and especially the management of forests and national parks in Vietnam. WWF also brought forest certification to Vietnam, started with a conference in Ho Chi Minh city in 1999 held by WWF Indochina, JICA, Forest Steward Committee (FSC), and the Royal Embassy of the Netherlands collaborated with the Ministry of Agriculture and Rural Development. Recently, WWF supported the small holders and forestry companies in Central Vietnam in achieving FSC certificate and assist the development of FSC national standards (cos).

The forest certification in Vietnam is also enhanced by the involvement of WB. WB has supported the Forest Sector Development Project for Vietnam to achieve sustainable management of plantation forests and the conservation of biodiversity in special use forests. They also provide micro finance and technical support for smallholders to cultivate over 76,500 hectares of forest. In addition, a pilot area of 850 hectares received the International Stewardship Forest Certification (Table 11).

Table 11. Examples of some governmental and non-governmental organization activities in Vietnam

NGOs	Activities
Forest Agency of Japan	Testing the potential application of the Japanese Advanced Land Observing Satellite (ALOS)/ to establish forest cover maps and estimate forest carbon stock

---

Finish government	Developing a more reliable forest inventory information platform
	Establishing a more accurate forest stock baseline (FORMIS)
	Supporting MARD in developing RELs
USAID Asia	Developing a forest-based REDD+ initiative that uses Quickbird technology to estimate the forest carbon modelling of an 80 000 ha watershed forest in the Lam Dong province
JICA	Developing digital maps (maps of 1990,2000, 2010 including validation)
	Compiling comprehensive and accurate forestry data
	Protection Forests Restoration and Sustainable Management
WWF	Supporting the establishment and management of national parks.
	Supporting the development of forest certification.
CIFOR	Supporting PFES and REDD+
SNV	Supporting REDD+ and forest certification

---

Source: Hoang et al. 2015 and Pham et al. 2012

Within the country, it has to trace back to 1975 to see the results of devolution in forest policies of Vietnam. After obtaining it, dependency in 1975 Vietnam applied State center

forestry with the focus of power in state forest enterprises for forest exploitation. After that, in response to forest degradation, the government devolves its rights to other stakeholders. In 1993, the government launched a Forest Land Allocation program me to individual households in order to halt the increasing environment degradation and preserve the remaining forests (Gomiero et al. 2000). In 1994, the Decree 02/CP 1994 was issued, stipulating the allocation of forest and forestlands to organization, households and individuals. It was found that the devolution of forest management authority to rural households has resulted in the forest expansion in Vietnam (Sikor 2001).

According to Decision 1482/QD-BTNMT by the Ministry of Natural Resources and the Environment dated 10 September 2012, as of 1 January 2012 Vietnam had around 15,4 million ha of forest land and belong to different groups as illustrated in Figure 1.

Gradually, Vietnam forestry has evolved to a more social participatory forestry with the ultimate objective of SFM.

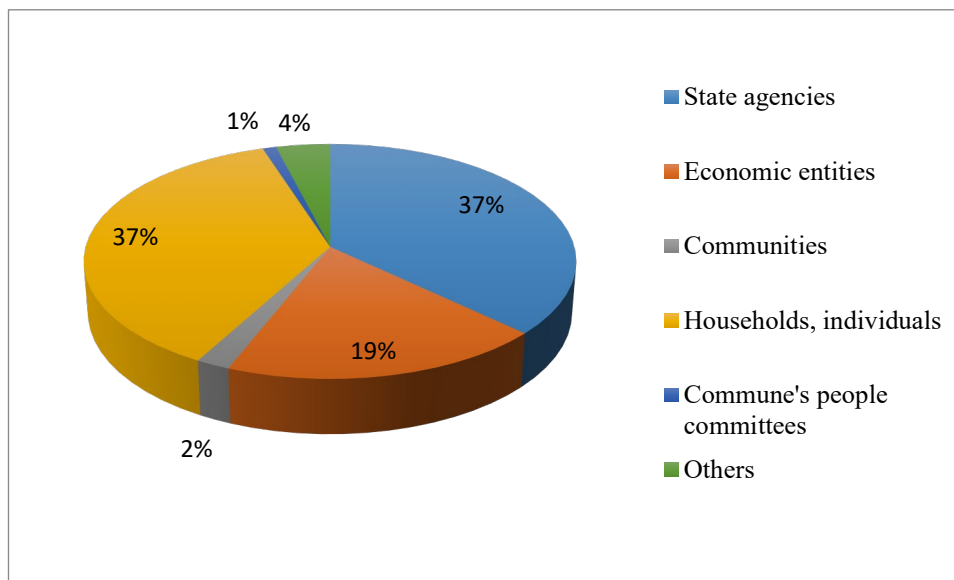


Figure 9. Percentage (%) of forestland allocated among different groups

Source: MONRE Decision 1482/QD-BTNMT dated 10.9.2012 on approving and declaring the land inventory results of 2011

Two laws that encouraging forest devolution must be mentioned are The Land Law (2003) and the Law on Forest Protection and Development (2004). These two have, for the first time in the history, highlighted the relevance of community forest management, in which the roles of local people and their traditional forest practices are considered important components of overall forest management. The Law on Forest Protection and Development 2004 stipulated that land ownership belong to the people, not to state as traditionally claimed. Owners have the right to exchange, transfer, rent, inherit, mortgage, the right to contribute their land as capital or joint venture to attract investment and boost the production. This point is very important when the owner decide to apply for FSC certification (FSC, Principal 2: ensure and use rights and responsibilities).

Besides the allocation, the government also limited the harvesting from natural resource (England and Kammen 1993). In 1993, logging was banned on all protected forest and reserves and on all natural forests in the northern provinces of Vietnam.

The amendment of laws and limitation of timber logging are two most significant efforts of Vietnam government in protecting its natural forest resources and moving towards SFM.

To sum up, international NGOs in Vietnam have been an important source of supporting the development of forest certification and other forestry programs in forestry sector.

## **4.5. Conclusions**

This chapter gives clear understanding of the context and possible factors, which contribute to the development of forest certification in Vietnam. First, the country's integration to global market has brought opportunities for the forest sector to be involved in international initiatives, which support forest protection and development. The wood processing industry has been moving towards building a sustainable sector that uses legal materials in accordance with international laws as well as regulations of major export markets like the US, EU and Japan.

Second, big renovation in the national policy of forest management such as the devolution of forests rights from governments to communities, families, and individuals has allowed the small holders to involve in different forestry management practices.

Third, in order to meet legal requirements from export market, the timber processing industry of Vietnam has created demand for certified wood.

Though the context provides suitable conditions for the forest certification, the small-scale forest owners in Vietnam still face a lot of challenges in pursuing the certification which will be analyzed in the next chapters.

## REFERENCES

Auer, M. (2012). Group Forest Certification for Smallholders in Vietnam: An Early Test and Future Prospects. *Human Ecology*, 40. doi:10.1007/s10745-011-9451-6

Cashore, B., & Stone, M. (2012). Can Legality Verification Rescue Global Forest Governance? Analyzing the Potential of Public and Private Policy Intersection to Ameliorate Forest Challenges in Southeast Asia. *Forest Policy and Economics*, 18, 13–22. doi:10.1016/j.forpol.2011.12.005

De Jong, W., Sam, D., & Hung, T. (2006). *Forest rehabilitation in Vietnam: histories, realities and future*.

FAO (2009) Asia-Pacific forestry sector outlook study II working paper series - Working paper No. APFSOS II/WP/2009/09

Forest Trends (2011) Baseline study 3, Viet Nam: Overview of Forest Governance and Trade

FSC market info pack (2015) Retrieved from <https://ic.fsc.org/preview.2015-fsc-market-info-pack.a-5067.pdf>

Gerwing, J. (2002). Degradation of forests through logging and fire in the eastern Brazilian Amazon. *Forest Ecology and Management*, 157, 131-141. doi:10.1016/S0378-1127(00)00644-7.

Hoang, T., Hoshino, S., & Hashimoto, S. (2015). Forest stewardship council certificate for a group of planters in Vietnam: SWOT analysis and implications. *Journal of Forest Research*, 20. doi:10.1007/s10310-014-0472-z

ITTO (2015) Biennial review and assessment of the world timber situation 2013-2014.

Marx, A., & Cuypers, D. (2010). Forest certification as a global environmental governance tool: What is the macro-effectiveness of the Forest Stewardship Council? *Regulation & Governance*, 4(4), 408-434. doi:https://doi.org/10.1111/j.1748-5991.2010.01088.x

Maraseni, T., Son, H., Cockfield, G., Duy, H., & Nghia, T. (2017). Comparing the financial returns from acacia plantations with different plantation densities and rotation ages in Vietnam. *Forest Policy and Economics*, 83, 80-87. doi:10.1016/j.forpol.2017.06.010.

Meyfroidt, P., & Lambin, E. F. (2009). Forest transition in Vietnam and displacement of deforestation abroad. *Proceedings of the National Academy of Sciences*, 106(38), 16139-16144. doi:doi:10.1073/pnas.0904942106

Nussbaum, R., & Simula, M. (2005). *The forest certification handbook*. (2nd ed ed.) (The Earthscan forestry library). Earthscan. <http://www.loc.gov/catdir/toc/ecip051/2004022384.html>

Ministry of Agriculture and Rural Development (2006) Vietnam Forestry Development Strategy 2006 till 2020

# CHAPTER 5: SWOT ANALYSIS OF FOREST CERTIFICATION FOR A GROUP OF SMALLHOLDERS

## 5.1. Introduction

Previous chapters have created the overall picture of the national forest management framework, from this chapter; we focus on investigating the benefits and challenges for a group of smallholders in Quang Tri province, which is the first group in Vietnam to obtain a FSC forte certificate. Quang Tri province is selected based on a number of criteria such as:

- Representative and significance of the site: It was the first group in Vietnam archive FSC certificate
- Willingness to participate and collaborate of local people and authority.
- Logistic and financial coverage

In detail, we focus on the factors affecting the maintenance of the group from four dimensions to study the internal strengths, weaknesses, and external opportunities and threats. Furthermore, some important policy implications for the development of the FSC certification group are proposed.

## 5.2. Research methodology

Information was collected in three phases, the first being to capture the situation of Quang Tri Province group certification by examining related reports (WWF report, DoF reports, Vietnam forest reports, evaluation studies, and feasibility studies) and holding interviews with government department and WWF project staff.

Secondly, a set of research questions aiming to build a SWOT matrix was developed. The SWOT matrix is popular tool used by organizations for strategic management and



marketing. In SWOT, external analysis focuses on the threats and opportunities (T & O), internal analysis helps to identify strengths and weaknesses (S & W). SWOT helps an organization understand its resources and capabilities as well as deficiencies and external threats to its future. Based on SWOT analysis, the organization can make the strategic development plan (Gurel and Tat, 2017)

In the third phase, structured interviews and focus group meetings were held. In each focus group meeting, the participants included representatives from the commune People's Committee, local officers in charge of forestry and agriculture, the village head and subhead, and representatives from farmer's associations.

In total, 191 structured interviews were conducted between August and September 2013. I applied stratified random sampling. These focused on investigating the benefits and difficulties associated with forest certification and people's intentions for the future.

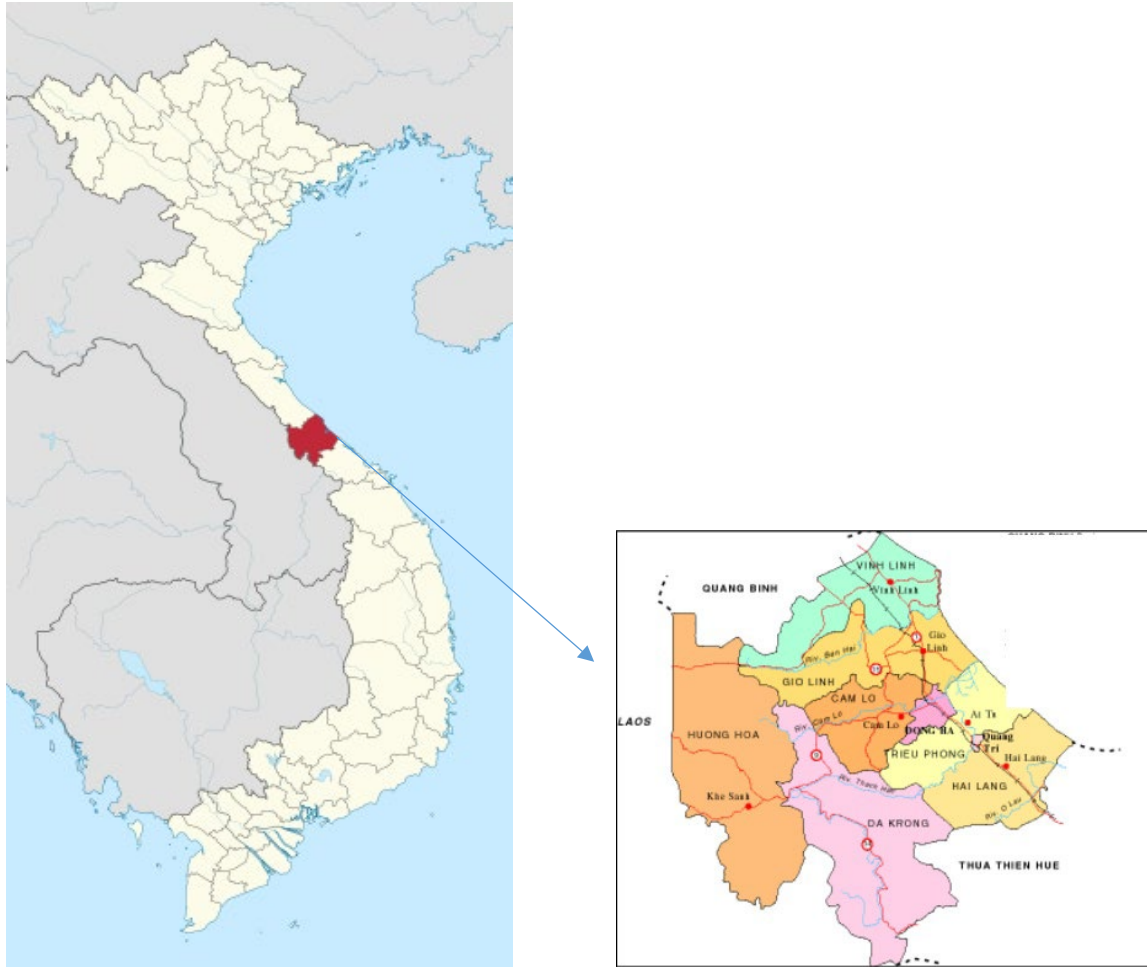


Figure 10. Map of Quang Tri province and location of 5 districts of the members in the FSC group

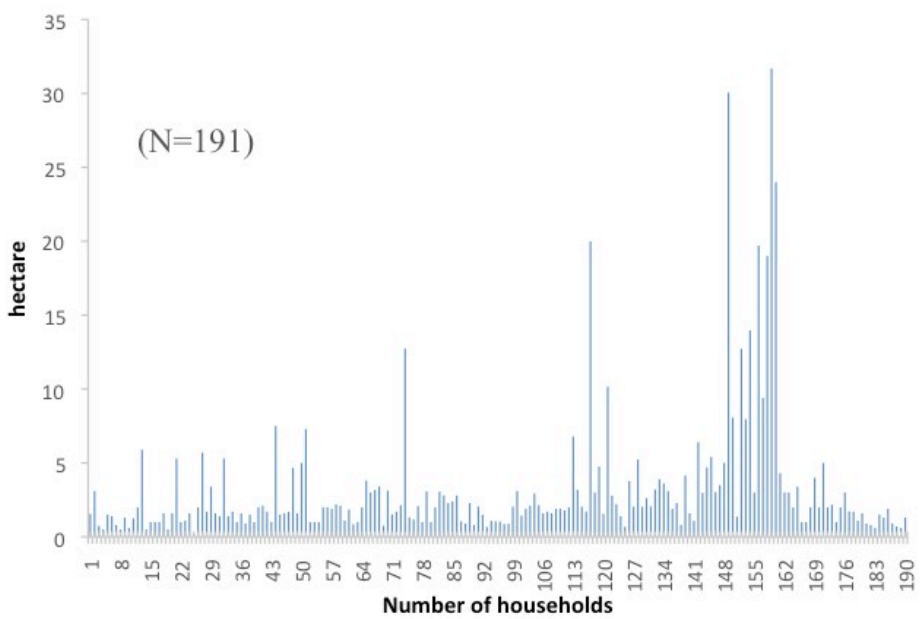


Figure 11. Average number of households by plantation area

Table 12. Research Questions for building a SWOT matrix of FSC Group Certification

Aspect	Questions
Strengths	<p>What benefits does the FSC bring in terms of economy, environment and society?</p> <p>Do you better manage your plantation after joining the FSC group?</p> <p>What makes FSC certificate holders different from non-FSC holders?</p>
Weaknesses:	<p>What changes do you have to make to obtain the certificate? Are they difficult?</p> <p>What obstacles do you meet when pursuing FSC?</p> <p>Do you understand all the requirements of the FSC?</p>
Threats	<p>What are the external obstacles when pursuing FSC?</p> <p>Is support from donors available and how long does it last?</p>
Opportunities	<p>To whom do you sell FSC wood?</p> <p>Can you earn higher prices?</p> <p>What opportunities does FSC bring for your business?</p>

Interviews were also held with non-governmental organizations (WWF Vietnam), and with the local authorities at the village and commune levels. These helped to provide additional perspectives and triangulate the data from the farmers' interviews. In total, 4 group meetings were conducted, one (1) in 2012 and three (3) in 2013, each lasting 60–80 min. The information from these meetings is synthesised and shown in the SWOT matrix in Tables 12 and 14. SWOT is the abbreviation for the capital word of Strength, Weakness, Opportunities, and Threats. The origin of SWOT is unknown, but it is still widely used as a tool for planning purposes (Helms and Nixon 2010; Kotler 1988). In 1999 Weibrich modified SWOT into the format of a matrix, matching the internal factors (i.e., strengths and weaknesses) of an organization with its external factors (i.e., opportunities and threats) to systematically generate long-term strategies. In this paper, S, W, O, and T factors involved in the FSC certification for

plantation forests in the Vietnam area are proposed and analyzed. Understanding all these points is a good basis for strategy formulation to solve problems and sustainably maintain FSC at local sites.

### 5.3. Results SWOT matrix analysis of forest certification

At present, forest certification in Vietnam is still in its initial stage. The government encourages the expansion of plantation forest area to be certified. There are promising benefits for forest planters when pursuing FSC certification; however, they still face many challenges and threats at the same time. SWOT analysis of the FSC certificate system carried out in this study helps in understanding the motivations of farmers when joining the group, as well as the obstacles, which can affect group maintenance.

Table 13. Different Prices for FSC and non-FSC wood (based on 2010 contract)

Source: Thanh Hoa company (a Vietnam company which purchase FSC wood)

Type of wood	With FSC (VND)	Non- FSC (VND)	% difference
10cm–13cm:	1,150,000	900,000	22%
14cm–19.5cm	1,600,000	1,300,000	19%
>19.6 cm	2,350,000	-	-

Note: No data is found for non-FSC wood, which has a diameter larger than 19.6 cm (because people sell wood before the trees get to this size)

Particularly, the analysis of strengths and opportunities reflects the motivations of local people when joining the group, while that of the weaknesses and threats reflect the challenges

of effective group maintenance. Based on that, authors point out possible strategies in order to overcome obstacles for the development of the group.

Table 14. Table SWOT analysis of the FSC certification for group of small holders

	STRENGTHS	WEAKNESSES
	<p>S1: Price premium</p> <p>S2: Differentiate products</p> <p>S3: Better managed forest</p>	<p>W1: Audit process is costly</p> <p>W2: Management and monitoring is complicated</p> <p>W3: Harvesting time is longer</p> <p>W4: Low level of forest expertise of farmers</p>
OPPORTUNITIES	S/O strategy	W/O strategy
<p>O1: More buyers</p> <p>O2: Participate in wider trade network</p>	<p>Enhance the linkage between farmers and buyers by fostering the mutual communication and transaction</p> <p>Increase the quality and volume of wood to attract buyers</p> <p>Keep manage forest in a sustainable way in accordance to FSC criteria</p>	<p>Attract more members to share to certification cost</p> <p>Seek for support from buyers (such as deposit money or pay in advance for certified wood)</p> <p>Organize training classes for farmer (by companies or local department)</p>
THREATS	S/T strategy	W/T strategy
<p>T1: No support from donor</p> <p>T2: Fluctuations in wood prices</p>	<p>(Partly) Cover the certification cost by higher price for FSC wood</p> <p>Make long term cooperation/contract with FSC wood trade companies</p> <p>Keep track of and predict market price (by farmers)</p>	<p>Seek for additional fund from other organization</p> <p>Charge membership fee</p> <p>Diversify the income source</p>

### **Strengths: achieving benefits that FSC brings**

#### *S1: price premium*

Certified wood can be sold at a higher price than non-certified wood. In 2010, when the first 27 ha of FSC-certified Acacia plantation was sold, the contract from a company (in WWF records, its name was Thanh Hoa Company) set the price for certified wood at 19 to 22 % higher compared to non-certified wood. Real prices paid by the Thanh Hoa Company are listed in Table 13. The price premium was recorded and confirmed by 19 households who sold the wood in 2010, though revenue differed among households according to plantation area and rotation length.

#### *S2: product differentiated*

Out of 191 people interviewed, 62.5 % agree that certified wood and non-certified wood obviously create a completely different value not only in terms of price but also indicating that the owner has applied a different method of forest management. Because the owner has to meet the FSC criteria and requirements, they have to adjust their way of planting (from cuttings to seedlings), and selling (put the FSC logo into products). This additional work makes FSC products different from “normal” ones. The remaining interviewees responded with either “no idea” or “does not care about this issue”.

#### *S3: better forest management*

Local people note that the most visible benefit that FSC brings is the knowledge, which has changed their forest management practices. Previously, people plant forests using their accumulated experience, and it is rare that training courses are provided. Thanks to FSC, they have been given useful skills such as digging instead of using plough machines to create holes to plant seedlings, keeping the buffer zone to prevent fire, using pesticide and fertilizer appropriately, and reducing the impact of logging. In general, they acknowledge that these updated skills are useful, and are reflected in the reduction of soil erosion, strong tree growth,

and mitigation of windblown disaster—a phenomenon that afflicts local people (65 % people agreed).

**Opportunities: developing trade networks**

*O1: buyer's selection*

Before 2010 when the first FSC wood was sold, local people often sold the products to the intermediaries who then sold to the processing enterprises to earn a price margin (100 % of households did so). The traditional process of selling was that the intermediaries and the owner discussed price per hectare (not per cubic meter). When both sides came to an agreement, then the intermediary would bear the cost of exploitation (labor cost, transportation, and all related costs) and sell the wood product to their partners. After obtaining the FSC, the WWF have introduced Chain of Custody wood processing and trading companies, which are members of the Global Forest Trade Network-Vietnam (GFTN-V); the selling process hence changed, since planters directly discuss and make contracts with buyers.

Because the need for certified wood is high, farmers can select the buyers and discuss the price, as well as predict future demand. Recently, there have even been some offers from foreign companies that have found information about Quang Tri FSC wood on the website of the FSC organization (Interviewed, Chairman of Quang Tri Department of Forestry). This is a good signal for local production development in the future.

*O2: participate in wider trade networks*

With the participation of GFTN-V companies, business now not only happens at the local level, but also reaches the national level. The network has been widened, and this is promising for the smallholders and the FSC.

**Weakness: the difficult audit process versus low forestry expertise**

*W1: Audit process is costly*

Almost 100 % of people interviewed think that the audit process is costly and complicated. The process of certification involves experts from overseas. The process is rather complicated for farmers who lack technical expertise and have very few opportunities for working with outsiders.

The 2010 initial FSC audit fee for the Quang Tri plantations was approximately \$12,000, which was paid by the donor. For annual audits, which are compulsory to maintain FSC certification, the fee is approximately \$7,000 (Interview, WWF Vietnam). This amount of money is beyond the capacity of local people, as their annual income is only around \$1,000 per capita (Vietnam Statistics, 2011). Indirect costs for certification such as buying forestry machines (saw), first aid kits, and working clothes are costly.

*W2: Management and monitoring is complicated*

Local people's forestry expertise is low, and forest management and monitoring is complicated. The certificate is valid for five years, with the requirement of an annual audit. From the initial to the yearly audits, people have to meet the requirements of the FSC such as reducing impacts on soils, buffer zone building, wild animals protection, keeping records of seeds used, and labeling the FSC logo on harvest wood. This additional work creates a burden on people who are planting trees based on experience, especially using cuttings (not seedlings, which cannot produce wood that meet the FSC quality) and clear cutting (which is not recommended by FSC). Besides, local people have little understanding of technical standards and criteria such as "environmental impact", or "high conservation value forests". Language barrier is another big obstacle, because they cannot communicate directly with foreign experts during the audit process. Paperwork is also a daunting job, which they themselves cannot finish without support from a local technical department.

*W3: harvesting time is longer*



For non-FSC wood, people apply cutting cultures so trees grow quickly and can be sold after 4–5 years in general. However, wood from cuttings rarely reaches the diameter of 13 cm and thus can only be sold as pulpwood. To produce wood with diameter [13 cm, which can be accepted as sawn wood and labeled by FSC, people have to plant seedlings. This requires a longer period (7–10 years). Nevertheless, the livelihood of local farmers heavily depends on forestry as one main income source, and they tend to sell the wood whenever they need money. As a result, about 80 % of interviewees said that they do not want to wait 10 years to sell their product even if the selling price might be higher.

*W4: low level of forest expertise of farmers*

Farmers plant trees based on accumulated experiences. They have little knowledge of what are called “environmentally friendly” or “low impact practices”. During interview, most people revealed that they were attracted by the possibility of selling wood at higher prices, thus joining the FSC group. Communication with audit experts and corrective actions according to FSC rules were carried out with the help from local Department of Forestry

**Threats: no more support from donors**

*T1: No support from donor*

As mentioned above, the FSC certificate group is built within a project and there is a heavy dependence on donor support. Because support from WWF Vietnam will not last forever, and the certification and maintenance costs are high, there is a high likelihood that farmers will stop maintaining certification if no further support is provided.

*T2: fluctuations in price*

No one can guarantee that the price for Acacia FSC wood will stay high in the future. There is also concern that it is just one kind of motivation that WWF Vietnam created, with a view to correcting the fact that the volume of FSC wood produced by Quang Tri Province is

not high, and thus is not attractive to companies at a distance (Interview, chairman, Quang Tri Department of Forestry).

*T3: members' withdrawal*

Record of 2012 from provincial DoF showed that 13 households have withdrawn from the group (from a total number of 231 households in this year).

## **5.4. Discussions: possible strategies to maintain and develop FSC group**

Difficulties of Quang Tri smallholders are similar to else- where in the world, as pointed out by other authors (Bray and Pe´ rez 2002; Humphries and Kainer 2006). They have concluded that forest planters often face serious internal difficulties, including organizational inefficiencies, lack of appropriate knowledge, and outdated technology.

At the research site, though the benefits that FSC brings seem to be very promising, it also create many challenges for the certificate holders due to the lack of appropriate knowledge and commercialization expertise of local farmers. In addition, group certification requires the existence of strong organizational structures and administrative capacity. However, as groups in Quang Tri province are established by outsiders (under the supervision of WWF and DoF), there is a risk of them lacking sufficient autonomy and the dependency on using external, short-term funding from donors.

What can be done to increase the feasibility of certification groups?

*S/O strategies*

One of the most important challenges to the sustainability of the Quang Tri FSC group is the necessity to reshape the donor-supported group into a self-sustaining one. In order to do that, the linkage between farmers and buyers must be enhanced. This is to foster the activeness of farmers when determining production type (for timber or for woodchip, expected diameter of wood log, etc.) in accordance to market needs as well as predicting stumpage price so that

they can have a better management plan for the Acacia plantation. In 2010 when the first FSC-certified wood was sold, the total exploitation area was just 27 ha. In order to attract more buyers, the quantity of certified wood should be increased (Interview, Thanh Hoa Ltd. company representative).

#### *W/O strategies*

In the case when financial support stops, the most challenging issue for the group maintenance is how to cover the initial and annual audit fee. The most feasible and sustainable solution is to collect from members. For this, the scale of a group in terms of plantation area as well as number of members also needs to be increased so that the economic efficiency of certification is higher. Besides, farmers can also seek support from different organizations or from the companies who have a demand for FSC-certified wood. For instance, they can ask the companies to pay money in advance (as a deposit to get FSC certified wood later on) in order to partly cover the FSC-related costs.

Regarding forestry expertise, since it will definitely take time to make progress at the farmer level, the most feasible solution is increasing the participation and responsibility of local authorities. WWF Vietnam will withdraw when the project finishes, but DoF is a local governmental body, so their role would be maintained. In other words, the relationships between group members and the DoF should be enhanced. The DoF should consider the job of supporting the FSC group as their department's mission, not as a temporary project.

#### *S/T strategies*

For the existence of the group, apart from financial support, some regulations should also be formed regarding the conditions that must be met when joining a group, leaving a group, and spelling out the benefits and obligations of group members in fire prevention, selling products, and related matters. Furthermore, training courses are necessary in order to enhance

local people's understanding about FSC certification and its requirements as well as benefits so that people would not withdraw so easily after joining the group.

#### *W/T strategies*

Farmers can also seek support from different organizations (other than WWF) and governmental funds. The membership fee is also a potential budget and simultaneously increases the responsibility of members to maintain the group. Diversity of income sources is another long-term strategy to decrease dependency on income from selling Acacia products and lengthen the rotation (which can help to produce better timber).

At the macro level, a national forest stewardship council should be established. This will better suit the actual situation of Vietnam forestry, as well as have the potential to reduce costs by using domestic experts. Regarding this issue, Indonesia can provide an important lesson. It has developed a forest certification system called LEI (Lembaga Ekolabel Indonesia), which is not only valid within Indonesia but compatible to FSC principles, and is now internationally recognized as a credible certification scheme (Tacconi et al. 2004).

## **5.5. Conclusions**

Group certification creates opportunities for plantation forest smallholders to participate in wider trade networks. Besides, obtaining the certificate allows them to have a higher sale price as well as to better manage their forests. However, to receive the certificate, each member has to follow FSC indicators and criteria, which can cause many difficulties owing to their low expertise and the high cost burden. Despite that, the Quang Tri DoF is currently trying to increase the number of group certification schemes. Market demand and price premiums seem to be the key motivations, while related costs are covered by the donor (WWF Vietnam). Because this subsidy will not last indefinitely, alternative support mechanisms and the enhancement of each group's self-reliance will be crucial to the development of group certification in the future.

## REFERENCES

- Araujo, M., Kant, S., & Couto, L. (2009). Why Brazilian companies are certifying their forests? *Forest Policy and Economics*, 11(8), 579-585. doi:<https://doi.org/10.1016/j.forpol.2009.07.008>
- Auer, M. (2012). Group Forest Certification for Smallholders in Vietnam: An Early Test and Future Prospects. *Human Ecology*, 40. doi:10.1007/s10745-011-9451-6
- Bray DB, Pérez LM (2002) The rise of community forestry in mMexico: history, concepts, and lessons learned from twenty-five years of community timber production. Report to the Ford foundation, Mexico
- Cashore, B., & Stone, M. (2012). Can Legality Verification Rescue Global Forest Governance? Analyzing the Potential of Public and Private Policy Intersection to Ameliorate Forest Challenges in Southeast Asia. *Forest Policy and Economics*, 18, 13–22. doi:10.1016/j.forpol.2011.12.005
- Cubbage, F., Diaz, D., Yapura, P., & Dube, F. (2010). Impacts of forest management certification in Argentina and Chile. *Forest Policy and Economics*, 12(7), 497-504. doi:<https://doi.org/10.1016/j.forpol.2010.06.004>
- Gürel, E. (2017). SWOT analysis: A theoretical review. *Journal of International Social Research*, 10, 994-1006. doi:10.17719/jisr.2017.1832
- Hain, H., & Ahas, R. (2007). Can Forest Certification Improve Forest Management? Case Study of the FSC Certified Estonian State Forest Management Centre. *International Forestry Review - INT FOR REV*, 9, 759-770. doi:10.1505/ifor.9.3.759
- Humphries, S., & Kainer, K. (2006). Local perceptions of forest certification for community-based enterprises. *Forest Ecology and Management*, 235, 30-43. doi:10.1016/j.foreco.2006.07.027
- Kollert, W., & Lagan, P. (2007). Do Certified Tropical Logs Fetch a Market Premium? A Comparative Price Analysis from Sabah, Malaysia. *Forest Policy and Economics*, 9, 862-868.
- Nguyen TQ (2007) Trends in forest ownership, forest resources tenure and institutional arrangements: are they contributing to better forest management and poverty reduction? Forestry Policy and Institutions Working Paper 14

Nussbaum R, Simula M (2005) The forest certification handbook. Earthscan, United Kingdom

Sugiura, K., & Oki, Y. (2018). Reasons for Choosing Forest Stewardship Council (FSC) and Sustainable Green Ecosystem Council (SGEC) Schemes and the Effects of Certification Acquisition by Forestry Enterprises in Japan. *Forests*, 9(4), 173. Retrieved from <https://www.mdpi.com/1999-4907/9/4/173>

Tacconi, L., Obidzinski, K., & Agung, F. (2004). *Learning lessons to promote forest certification and control illegal logging in Indonesia*. Retrieved from [https://www.cifor.org/publications/pdf\\_files/Books/BTacconi0401.pdf](https://www.cifor.org/publications/pdf_files/Books/BTacconi0401.pdf)

Zhao, J., Xie, D., Wang, D., & Deng, H. (2011). Current Status and Problems in Certification of Sustainable Forest Management in China. *Environmental management*, 48, 1086-1094. doi:10.1007/s00267-011-9620-9

# **CHAPTER 6: COST ANALYSIS OF FSC FOREST CERTIFICATION AND OPPORTUNITIES TO COVER THE COSTS**

## **6.1. Introduction**

At the previous section, the case study of Quang Tri FSC group certification has been introduced with strengths, weaknesses, opportunities and weaknesses analysis. Initial results has revealed some economic benefits of FSC certification, but has not contributed to the understanding of costs of certification process to small woodlot owners who are often farmers with limited financial capacity. This chapter, therefore, aims to identify the actual economic costs for obtaining and maintaining FSC certification and to discuss the various options to farmer groups to pay for these costs. Additionally, the study provides an up-to-date synthesis of the expenses of forest certification.

## **6.2. Methods**

### ***Data collection***

The process for obtaining and maintaining the FSC certificate is comprised of 3 phases: preparation, auditing, and compliance. Based on this, we identified associated activities and costs. Estimation of the costs of each phase was calculated based on actual expenditure (invoices and recorded payments). For compliance cost, it is calculated in 2 steps. Step 1: define the number of working days spent for compliance activities by conducting in-depth interviews with the group executive board (including the group leader, accountant) and after that recheck the number of days by discussing with the forest owners. Step 2: Monetarize compliance cost. Most compliance activities happen in form of daily tasks such as collecting garbage, forest

monitoring, and patrolling activities, or paperwork. Therefore, we consider compliance cost as opportunity cost since people have to give up some working days in order to conduct activities to comply to the FSC standards. Opportunity cost equals “number of working days” multiplies “the local payment for a working day” which is 7.5 EUR (the average payment for a working day, from Vietnam dong converted into EUR for comparison). Data gathering and calculations of this study were conducted in September 2017.

## 6.3. Results

### 6.3.1. Actual costs of forest certification related activities

The activities relating to the Quang Tri FSC group management and estimated costs are illustrated in Table 15.

Table 15. Estimation of preparation activities for FSC certification in Quang Tri Province

	<b>Activities relating to FSC certification</b>	<b>Estimated cost (EUR)</b>	<b>Remarks</b>
	Investigation of potential candidate households	100	Cost to organize one meeting with potential members at one village
	FSC introduction and awareness raising workshops	200	Based on actual expense to organize the workshop
Preparation cost	Training classes for new members		
	<i>Administration management: records and reports</i>	200	Costs were based on payment to the trainer and administrative fee to organize training class
	<i>Forest monitoring</i>	200	
	<i>Forest inventory</i>	200	
	<i>Working safety codes, low impact logging practices</i>	200	
	<i>First aid training</i>	200	
	Map building and updating	450	Hiring a consultant to update every new member's forest



		plots and deleting member plot that left the group.
Supporting the formation of sub group formation (village level)	200	Buying folders, document holding table and village information board
Indigenous tree planting in buffer zone	200	Planting indigenous trees for 20.68 ha of buffer zone
<b>Total</b>	<b>2150</b>	

*Note: The cost was estimated based on actual expense for the implementation of activities.*

The FSC certification cost is the most incredible price tag. It is considered accurate because it is extracted from the agreement between the group and the audit agency. The largest amount is paid in the first year of each 5-year cycle and there is an increasing trend of audit fees due to the increasing number of sample households to check during the audit. This sample consists of both old and new members of the group. As illustrated in Table 16, as the group member increases, the number of members to be evaluated also increases. Courtesy of the project implementation, certification associated costs are currently covered and the household members do not need to pay for any cost, with the exception of the contribution fee which is collected after selling FSC certified timber. According to the group regulation, forest owners pay 7% of premium revenue to the group's budget. This budget is not spent yet. However, it is planned for the future when the financial support from the project ends.

Table 16. The audit costs of FSC certification in Quang Tri Province

Cost	Year								
	2010	2011	2012	2013	2014	2015	2016	2017	2018
Total annual cost (EUR)	6755	3675	3675	3675	5000	7648	5416	5576	5716
Certified area (ha)	318	581	571	892	925	1392	1722	1876	1921
Cost per unit area (EUR/ha)	21.24	6.33	6.44	4.12	5.41	5.49	3.15	2,97	2,98

*Source: Based on contract between audit agency and the group, administration fee was included but not travel costs.*

Table 17 reports the estimated times to respond to Corrective Action Requests (CARs) that auditors identify as noncompliance to the FSC standard. FSC standard is a set of 10 international principles, with detailed criteria in each principle to evaluate whether forest management unit conforms to FSC criteria and can be certified. Nonconformity with FSC criteria generates CARs.

Table 17. Number of CARs for Quang Tri FSC group in the last 7 years.

Year	2010	2011	2012	2013	2014	2015	2016
Number of CARs	12 minor CARs	7 minor CARs	6 minor CARs	6 minor CARs	2 minor CARs	2 minor CARs	1 major CARs 4 minor CARs
Approximate time to remedy	15 days	10 days	10 days	10 days	6 days	6 days	30 days 3 days
Estimated cost based on opportunity costs	113	75	75	75	45	45	225 23

*Source: the table's estimations were done based on group discussion to discuss how many days it took to remedy each CAR*

*Note: the average daily wage is 7.5 EUR*

Minor CARs can be addressed over a one-year time, whereas major CARs must be rectified within 3 months. Most of these activities are difficult to quantify because they represent extra bureaucracy work such as record keeping, documentation of forestry monitoring activities e.g., a checklist of forest patrol. For example, the Quang Tri FSC group has a major CAR of lacking documents/ records for the 110 group members who have left the group since 2015. This is considered a major CAR in 2016 and was fixed in the surveillance in 2017. Minor CARs were burning of residues after harvesting, lacking written document for inclusion/exclusion of group members, improper disposal of waste, etc. We organized a group discussion to determine the number of working days the Quang Tri FSC group dedicated to addressing each CAR. Most of the minor CARs typically required 1-2 weeks to remedy.

Table 18 summarizes all FSC forest certification-related costs. These results demonstrate that the unit cost per ha in Quang Tri province has consistently decreased over recent years, and the total certified area concurrently increased. By 2016, the average cost 4.54 EUR per ha resulted in a total cost of approximately 7,814 EUR for the total 1,722 ha of plantation forest. Looking at the future, the Quang Tri FSC group can reduce the unit cost by expanding group certification area and the number of members. According to the findings from other scholars, the decrease in cost per ha could be attributed to the large area of forest (Elliott 2000, Cabbage et al. 2009).

Table 18. Summary of all FSC related costs in the period 2010-2016 (in EUR) in Quang Tri Province

Cost	Year						
	2010	2011	2012	2013	2014	2015	2016
Preparation cost (EUR)	2150	2150	2150	2150	2150	2150	2150
Audit cost (EUR)	6755	3675	3675	3675	5000	7648	5416

Compliance cost (EUR)	113	75	75	75	45	45	248
TOTAL COST (EUR)	9018	5900	5900	5900	7195	9843	7814
Certified area (ha)	318	581	571	892	925	1392	1722
Annual cost per ha (EUR/ha)	28.36	10.15	10.33	6.61	7.78	7.07	4.54

Comparing cost per ha in Quang Tri FSC group to other places show varying results. In China, in 2005, a forest bureau in Jilin province paid 133,209.42 USD or 114,560.01 EUR in their first year of FSC certification for forest area of 190,470 ha, or 0.6 EUR per ha (1 USD= 0.86 EUR). In another research, Wang and Ma (2005) estimated that the annual cost of forest certification would range between 0.012–1.606 USD per hectare or 0.01 – 1.38 EUR per ha. Cubbage et al. 2009 estimated that mean of cost in USA in 2007 was 3.24 USD or 2.79 EUR per ha.

Obviously, costs varied greatly depending on ownership size. Important point is that the preparation cost is more often than not less for large firms which probably already have much of management procedures suitable to the FSC standards (Cubbage et al. 2009). Looking at the table of costs in Quang Tri province, except for the payment to the audit agency, the preparation cost comprises the second largest proportion (22%-34%) of the total cost. Cost per ha could be less with the reduction of this preparation cost, and/or the increase of total certified area. Other scholars have also reported a decrease in cost per ha due to a large area of forest. For example, the cost of certification in Finland for forest management unit (FMU) above 30 ha averages 20.64 EUR per ha, but this cost decreases to 0.03 EUR per ha for areas larger than 50,000 ha (Elliott 2000). Similarly, in Malaysia, it cost 0.19 EUR per hectare for a 100,000 ha concession (Elliott 2000). Cubbage et al. (2009) estimated that costs average 0.47 EUR/ha for 80,000 ha FMU and 18.34 EUR/ha for 7,000 ha FMU.

**Table 19. Total summary of cost/revenue of the FSC group in Quang Tri Province**

Year	Cost	Revenue	Present value cost (A)	Present value revenue (B)	Benefit/Cost Ratio (B/A)
1	231.34		212.24		
2	57.62		48.50		
3	21.50		16.60		
7	599.42	7222.28	327.90	3950.83	5.88
FSC cost	4.54		22.85		
Annual management cost	8.6		43.28		
<b>Total</b>	<b>923.02</b>	<b>7222.28</b>	<b>671.37</b>	<b>3950.83</b>	

Note: Revenue and cost were based on research of Hoang et al. (2015b)

The units on all revenues and costs are EUR per ha. The discount rate is 9%

Annual management cost: 10 USD or 8.6 EUR per ha per year

NPV of annual management cost

$$43.28 = \sum_{t=1}^7 8.6 * (1.09)^{-t} = 8.6 * \frac{(1.09)^7 - 1}{0,09 * (1.09)^7}$$

FSC cost: 4.54 EUR per ha per year (as the latest year 2016 of this study)

NPV of FSC cost

$$22.85 = \sum_{t=1}^7 4.54 * (1.09)^{-t} = 4.54 * \frac{(1.09)^7 - 1}{0,09 * (1.09)^7}$$

$$\text{NPV} = 3950.83 - 671.37 = 3279.46 \text{ EUR per ha.}$$

$$\text{Benefit cost ratio} = \text{NPV of revenue} / \text{NPV of cost} = 3950.83 / 671.37 \text{ EUR per ha.}$$

In order to have an evaluation of the paying capacity of the Quang Tri FSC group versus the FSC certification costs, we conducted an analysis on economic benefit of being FSC certificate holders by calculating net present value, and benefit-cost ratio as shown in table 5.

When the benefit-cost ratio  $> 1$ , the investment return is bigger per EUR revenues than per EUR cost in present terms.

The result of table 19 was based on a research of Hoang et al. (2017) in the Quang Tri province. Costs and revenue was calculated for a 7-year-old forest plot with density 1700-2000 trees. The benefit cost ratio equaled 5.88 with the harvested volume 117.5 m<sup>3</sup>. In fact, the harvested volume per ha varied significantly. In 2016, the Quang Tri FSC group recorded different harvest volume in different forest plots, the highest harvested volume was 162.37m<sup>3</sup> per ha, the lowest was 49.21 m<sup>3</sup> per ha. In 2017, the highest harvest volume was 86.42m<sup>3</sup> per ha and the lowest was 73.77m<sup>3</sup> per ha. In the case of lowest harvest volume of 49.21 m<sup>3</sup> per ha, the benefit cost ration is 2.46, indicating that certification brings economic benefit, enabling the local people to cover the associated costs when the project and its funds finish someday.

### 6.3.2. Possible solutions to pay the cost

As shown in Table 19, the estimation of several thousands of EUR for the payment of certification-associated cost may be prohibitive for the Quang Tri FSC group, especially as the financial security of the group is dependent on the external entities such as the donor and the FSC international fund for smallholders. Recently, a processing company has committed to pay for the audit costs. All feasible sources of support to maintain the FSC certificate in Quang Tri province are discussed below.

(i) The support from international non-governmental organizations

The project of WWF is crucial to the maintenance of the FSC certificate in Quang Tri province. Other than that, recently the group also applied for the FSC smallholder fund, which was successful. However, external assistance is not sustainable, and the group has to consider different sources in order to cover the certification cost.

(ii) Contract selling/joint venture with private companies

Funding can also be generated by signing a contract selling/joint venture with private companies. Producing and selling on a contractual basis is a common arrangement in agriculture, and has resulted in numerous positive outcomes, including direct investments to farmers and the sharing of potential market risks. The production chain between producer and buyer is enhanced. This type of production is becoming more common in organic agriculture (Bijman 2008). Similar linkages between the Quang Tri FSC group and processing companies have been established. However, such linkages are considered new and are not yet fully explored. One company has committed to pay for all certification auditing cost in 5 years, and in return, the group agreed to sell the certified timber directly to the company. Several additional issues must be addressed. For example, the companies only purchase certified timber, not wood chip, and at a certain level of quality, therefore, forest owners are still required to sell the poor-quality timber and wood chip. This often occurs at an even lower price compared to when they sell the whole forest. In addition, given a harvesting rotation that extends from 4-5 years to 8-10 years, there is enhanced risk to the households as they face with delayed payment and greater likelihood that forest may be damaged due to typhoon or other disasters.

(iii) Vietnamese forestry programs

Currently, the Vietnamese state is completing the FSC forest management national standard. Once endorsed by the FSC international, the Vietnamese FSC version aims to be better suitable to Vietnam local context. There have been a number of efforts to support the target of achieving the certification of 30% of national forest in 2020. For example, Decision 38 of the Prime minister in 2016 proposed that forest owners could receive one-time reimbursement of up to 70% of certification cost. To date, however, the Quang Tri FSC group has not made use of this strategy.

(iv) Group's budget

The group budget was based on the contribution from member according to the 7% regulation (the group collects 7% of premium revenue difference between selling FSC and non-FSC timber), and annual membership fee at approximate two EUR per household. In table 20, we calculate the total money that the group has mobilized from its members with a different price premium and total harvest volume to evaluate the paying capacity if the Quang Tri FSC group is required to self-fund the maintenance and recertification of their FSC certificate. The actual selling price and premium in Quang Tri in 2015 and 2016 were applied. It shows that the group has not yet been able to cover the total costs of certification since the annual budget is still below the estimated cost. Obviously, in order to enhance the Quang Tri FSC group's budget, the total harvest area will need to be increased, at least to double the 2015 or 2016 revenue.

Table 20. Amount of money contributing to the group budget based on 7% regulation in Quang Tri province

Year	Total harvest (d>10) in m <sup>3</sup>	FSC price (in million VND)	Non FSC price (in million VND)	Difference of selling price (%)	Difference in revenue (in million VND)	7% of revenue difference (in million VND)	7% of revenue difference (in EUR)
2015	2022	1357	1050	23%	620754	43453	1620
2016	6719	1320	1100	17%	1478180	103473	3858

However, relying on the price premium of FSC certified timber for group budget is risky for at least two reasons. First, the selling volume fluctuates dramatically between years. Second, the price premium has shown a decreasing trend, albeit over a relatively short time period (25% in 2010 to 18% in 2016). In addition, several studies have indicated that in some situations, the price premium is low for certified timber (Yamamoto et al. 2014, Kooten et al. 2005).

In general, it is evident that the group can cover the certification cost by themselves, or by combining all the feasible sources. In order to enhance the internal capacity of the Quang Tri FSC group, fostering the revenue of certified timber by increasing the quantity and quality



of timber is inevitable. In fact, forest growers of the Quang Tri province and elsewhere in Vietnam tend to cut trees after 4-5 years in order to have a quicker investment return. However, there are shortcomings associated with this strategy. The disadvantages comprise low fiber percentage and irregular volume that is not attractive to big buyers. Meanwhile, a lengthening of the rotation cycle (from 4-5 years to 7-10 years) provides higher revenue as shown by the findings of Maraseni et al. (2017b). Even though the longer rotation has better financial gains, it has risks such as forest fire, typhoon, and diseases (Hoang et al, 2015b). The possible solution includes insurance for unexpected disaster and financial support to the family during the lengthened rotation cycle.

The Vietnamese Government has been attempting to reduce the area of plantation forest for wood chip and increase the area of plantation for timber purpose in order to provide domestic timber for wooden furniture production. Moreover, pressure on Vietnamese the wood chip production is predicted to increase due to the loss in international market share, and competition from Thailand and Australia. In fact, in 2016, the economic benefits from the wood chip production forests were less 30-40% compared to 2015 (Forest trends 2016). Therefore, a shift in the plantation forest practices toward a higher value of timber production is advised.

## **6.4. Conclusions**

Results of this study address and clarify expenses related to certification activities for getting and renewing FSC certification for a group of smallholders in Quang Tri province. As forest certification for group is still in its infancy in Vietnam, information from this first FSC group is important because costs and benefits are principal issues pertaining to the maintenance of forest certification.

As for the case of Quang Tri FSC group, though the estimated total cost is quite high, the study has revealed that the certification indeed bring higher income for the forest owners, therefore, enable them to cover the cost. Furthermore, the group has the opportunities of getting supported from external sources such as NGO, FSC funds and governmental programs.

In order to bring down the total cost, the group can consider ways to reduce the associated costs, e.g. spending for preparation activities, because they have gained experiences in the certification process and standard. Besides, the rise in the total number of household members may decrease the cost per ha. Most importantly, to be financially self-sustainable, a healthy budget managed by the group is critical. It is feasible to collect more money by attracting new members who are likely to earn higher selling price for FSC certified timber. High economic return is a very attractive point of forest certification, and there is a steady increase in the number of companies purchasing certified timber at locally and nationally.

## REFERENCES

Auer, M. (2012). Group Forest Certification for Smallholders in Vietnam: An Early Test and Future Prospects. *Human Ecology*, 40. doi:10.1007/s10745-011-9451-6

Bass, S., Thornber, K., Markopoulos, M., Roberts, S., & Grieg-Gran, M. (2001). Certification's impacts on forests, stakeholders and supply chains. *International Institute for Environment and Development*.

Bijman, J. (2008). Contract Farming in Developing Countries: An overview.

Breukink, G., Levin, J., & Mo, K. (2015). *Profitability and sustainability in responsible forestry economic impacts of FSC certification on forest operators*. Retrieved from <https://www.evidensia.eco/resources/407/profitability-and-sustainability-in-responsible-forestry-economic-impacts-of-fsc-certification-on-forest-operators/>

Cubbage, F., Moore, S., Henderson, T., & Araujo, M. (2009). Costs and benefits of forest certification in the Americas. *Natural Resources: Management, Economic Development and Protection*, 155-183.

Durst, P., McKenzie, P., Brown, C., & Appanah, S. (2006). Challenges Facing Certification and Eco-Labeling of Forest Products in Developing Countries. *193 International Forestry Review*, 8. doi:10.1505/ifer.8.2.193

Elliott, C. (2000). *Forest certification: a policy perspective*. Center for International Forestry Research (CIFOR).

FAO. 2015. Global Forest Resources Assessment 2015.

Forest trends. 2016. [Vietnam wood chip exportation: Policy-market-livelihoods of local households]. Vietnamese. [Accessed 22 December 2017] [http://goviet.org.vn/upload/aceweb/content/Bao%20cao%20Viet%20nam%20xuat%20khu%20Dam%20go\\_2016\\_Final.pdf](http://goviet.org.vn/upload/aceweb/content/Bao%20cao%20Viet%20nam%20xuat%20khu%20Dam%20go_2016_Final.pdf)

FSC. 2015. FSC Monitoring & Evaluation Report: Context, figures, effects and impacts. Public Report 2014. Forest Stewardship Council, Bonn, Germany. <https://ic.fsc.org/file-download.fsc-monitoring-and-evaluation-report-2014-context-data-effects-and-impacts.a-1937.pdf>

Hajjar, R. (2013). Certifying small and community producers in developing countries: Prospects for adoption and diffusion. *Forests Trees and Livelihoods*, 22. doi:10.1080/14728028.2013.837411

Hoang, T., Hoshino, S., & Hashimoto, S. (2015). Forest stewardship council certificate for a group of planters in Vietnam: SWOT analysis and implications. *Journal of Forest Research*, 20. doi:10.1007/s10310-014-0472-z

Hoang, H., Hoshino, S., & Hashimoto, S. (2015). Costs Comparison between FSC and Non FSC Acacia Plantations in Quang Tri Province, Vietnam. *International Journal of Environmental Science and Development*, 6, 947-951. doi:10.7763/IJESD.2015.V6.727

Kooten, G. C. v., Nelson, H., & Vertinsky, I. (2005). Certification of sustainable forest management practices: A global perspective on why countries certify. *Forest Policy and Economics*, 7, 857-867. doi:10.1016/j.forpol.2004.04.003

MARD. 2016. Announcement of the Forest Status in 2015. (Decision no. 3158/QD-BNN-TCLN dated 27 July, 2016. 1p.).

Maraseni, T., Son, H., Cockfield, G., Duy, H., & Nghia, T. (2017). The financial benefits of forest certification: Case studies of acacia growers and a furniture company in Central Vietnam. *Land Use Policy*, 69, 56-63. doi:10.1016/j.landusepol.2017.09.011

Maraseni, T., Son, H., Cockfield, G., Duy, H., & Nghia, T. (2017). Comparing the financial returns from acacia plantations with different plantation densities and rotation ages in Vietnam. *Forest Policy and Economics*, 83, 80-87. doi:10.1016/j.forpol.2017.06.010

Nguyen QT. 2008. The household economy and decentralization of forest management in Vietnam. In: Colfer, C.J.P., Dahal, G.R., Capistrano, D. (Eds.), *Lessons from Forest Decentralization: Money, Justice and the Quest for Good Governance in Asia-Pacific*. Earthscan/CIFOR, London, pp. 187–209.

Taylor, P. (2005). In the Market But Not of It: Fair Trade Coffee and Forest Stewardship Council Certification as Market-Based Social Change. *World Development*, 33, 129-147. doi:10.1016/j.worlddev.2004.07.007

Trung NQ, Kim NT. 2016. Vietnam Forest Certification Scheme 2016 - 2020. RISI Asian. Forest Products Summit, 22 June, 2016, Shanghai (China)

Yamamoto, Y., Takeuchi, K., & Shinkuma, T. (2013). Is there a price premium for certified wood? Empirical evidence from log auction data in Japan. *Forest Policy and Economics*, 38. doi:10.1016/j.forpol.2013.07.002

Wang XY, Ma AB (2005) Cost-benefit analysis for forest certification. *Forest Engineering* 21(1):64–66 in Zhao J, Xie D, Wang D, Deng H. 2011. Current status and problems in certification of sustainable forest management in China. *Environmental management* 48: 1086-94. DOI 10.1007/s00267-011-9620-9.

## **CHAPTER 7: ENVIRONMENTAL AND SOCIAL IMPACTS**

### **7.1. Introduction**

Forest certification is one of a number of regulatory initiatives that provides certification to those who comply with specific predetermined standards in economic, social and environmental guidelines. The previous chapter has analyzed economic benefits and challenges, this section aims to assess whether certification has led to an improvement in environmental and social performance. In details, this chapter aims to identify differences in forest management practices by making comparison between a group of certified forest owners and a group who are non-certified forest owners in Quang Tri province, Central Vietnam. In addition, we also discuss the challenges that the forest owners have to face with in pursuit of the forest certification

The results of this study could be used by policymakers and local authorities to evaluate the impact of certification and define challenges that may decelerate the development of FSC certification at a local level.

### **7.2. Research Methodology**

This study relied on a combination of quantitative and qualitative methods, which were based on interviews with key informants and a household survey.

7.2.1 Data collection: We used questionnaire surveys to investigate a total of 60 households (30 FSC-certified and 30 non-certified families), with the aim of comparing the difference in practice between those who are certified and those who are not. The questionnaire content included general information on household characteristics and a checklist of activities from a social and environmental perspective; the outcomes of which are presented in Tables 1

and 2. The questionnaire was based on a literature review and FSC principles about social and environmental management (the FSC Principle 3,4,6,7,8,9). Those principles refer to forest ecosystem conservation, wildlife protection, water conservation, working conditions, community relations, integrated crop management, soil conservation, and waste management, etc. In our questionnaire, some questions were omitted in order to fit in with the local context – for example, there were no questions about wildlife protection as there are virtually no wild animals in the local plantation forests, whilst questions relating to high conservation value forestry would not be applicable for 30 of the selected households. The questionnaire was pre-tested on a sample of households, and then edited before the official survey was conducted between October and December 2017. It was in Vietnamese, but translated into English by the authors.

We applied the pair-matched case-control method in order to compare pairs of like individuals whose only observable difference was whether they participated in the FSC certification scheme. We randomly selected a sample of 30 certified farmers. For the non-certified counterparts, we relied on the expert judgment of local agricultural extension agents and the village head to choose the closest non-certified farms of similar size, from the neighbors of each selected certified farm. The sampling method accounted for any potential selection bias by pairing farms with similar characteristics together.

Adopted changes in forest management practice due to the compliance with the FSC forest certification were revealed based on the review of published papers and literature, and through surveys (questionnaires and in depth interview). In the research site, The Quang Tri FSC group adopt many activities to enhance environmental forest management such as applying reduced impact logging practice, fire management, waste control (e.g. machine oil, nylon...), buffer zone setup....

The social benefits are shown by the enhanced working condition (e.g. working safety, labor contract), the proud and belief of forest growers as they better manage their forests, and the participation into a broader business network.

7.2.2. Analysis: The outcomes of the paired samples were analyzed using both the Wilcoxon-signed rank test, which tests whether there are systematic differences within pairs, and the McNemar Chi's test, which is the most appropriate tool to identify the differences between paired proportions for dichotomous variables (YES, NO question).

In addition, a third group containing 114 members who had left the group recently was researched in order to ascertain why they had stopped pursuing FSC certification. A group discussion helped to reveal the challenges, which may forest owners decided to leave the FSC group.

## **7.3. Results**

### **7.3.1 Possible selection bias control**

To check whether our sample selection method had effectively controlled the possible selection bias, a set of variables of household background characteristics were included i.e. age of the household head, size of the household, the level of education, etc. The results are shown in Table 21 below.



Table 21. Characteristics of FSC-certified and Non-Certified Households

	Certified	Non-certified	Wilcoxon-signed rank p Value
	Mean value		
Age of household head (years)	42.4	40.1	0.475
Number of people in the households	4.1	4.5	0.143
Years of education of household's head (level 1-12)	9.6	9.1	0.318
Number of forest plots	2.0	1.8	0.216
Distance from home to the forest plot (in km)	2.7	2.4	0.162
Density of plantation (trees/ha)	1841.6	2033.3	0.030
Planting rotation (years)	7.7	5.2	0.000

### 7.3.2 Changes in practices due to the FSC certification

Generally, certified and non-certified households were alike in terms of the age of the household head, the number of people living in the household, the education level attained by the head of the household, the number of forest plots in their possession and the distance to the nearest forest plots (Table 20). All farmers interviewed lived by a rural road and had their own vehicle to access the forests.

The planting density and rotation length differed between the two groups, as certified households planted less trees per hectare but in longer time as compared with their non-certified counterparts. This was attributable to the FSC training classes that the certified farmers attended, in which it is suggested that a density of 1,650 is optimal for trees for timber production purposes. Additionally, the rotation years differed significantly because at present there is a market for certified timber only, not certified chip wood. Consequently, certified farmers prolong their rotation to 7-10 years so that the trees can reach to a certain diameter for FSC

certified timber (Hoang et al., 2015, Maraseni et al., 2017), instead of the 4-5-year rotation that non-certified households apply before selling their trees for chip wood.

### Impact of FSC Certification

As FSC aims to encourage responsible forest management, certified farmers are obviously expected to adopt more environmentally friendly practices. As mentioned above, we applied the pair-matched case-control method of certified and non-certified households in order to identify discrepancies in the practices between the two groups. Practices are grouped into different areas, such as management activities, harvesting activities, environmental protection, financial support, ect. and presented in Table 22.

Table 22. The difference in Practices Between Certified and Non-Certified Households

Type of Activity	Percentage of People who Answered YES (%)		McNemar Test p-value (*)
	Certified	Non-certified	
<b>Management Activities</b>			
Do you maintain land for the prevention of fire?	77	33	0.01
Do you use machines to plow for planting trees?	40	36	0.65
Do you burn vegetation after harvesting?	27	77	0.00
Do you conduct thinning and pruning?	93	20	0.00
Do you keep records?	87	13	0.00
<b>Harvesting Activities</b>			
Do you hire a harvest team?	97	10	0.00
Do you apply reduced impact logging practice?	90	0	0.00
Do you apply pre-harvest inventory?	90	83	0.63
Do you have a pre-harvest plan?	90	70	0.70

Sale direct to a timber processing company	97	11	0.00
Sale to middlemen	10	97	0.00
<b>Environmental Protection</b>			
Do you use chemical fertilizer?	100	100	0.50
Do you use herbicides?	10	30	0.63
Do you leave trees near the watershed (apply to whom near watershed)?	90	10	0.08
Do you collect garbage (nilon, plastic box..) in the forest?	40	1	0.00
<b>Financial Support Access</b>			
Do you have access to/microcredit?	97	100	0.50
Do you have access to financial support from private companies?	40	0	0.00
<b>Involvement with the Local Development Plan</b>			
Do you have land tenure secured?	100	43	0.00
Do you participate in communal development plan?	47	27	0.70
<b>Labor usage</b>			
Do you use safety product while working in the forest?	97	11	0.00
Do you have opportunity to be trained about forestry knowledge?	93	20	0.00

\* Significant at the 0.05 level

Based on the results of this household survey it has revealed that forest management practices were different between certified and non-certified households.

### ***Management Activities***

There are differences in forest management activities. For instance, certified forest owners keep spare land to act as a fire prevention pathway, whilst non-certified forest owners do not. However, there are no differences in planting techniques (using machine or planting

trees manually) between the two groups. Determining whether to hire a machine to assist with planting does not depend on a farmer's certification status, but on the family's economic situation, since hiring a machine is expensive. However, another factor here is that some forest plots are not accessible by machine. In these areas, owners will plant trees manually. Nevertheless, certified households were advised to use machines and plant trees in contour lines in order to reduce the disturbance of soil and soil erosion.

Burning vegetation after harvesting was another area of discrepancy between the two groups. Although this may result in increased soil fertility, it is only effective in the first year. After that, the soil becomes hard and vulnerable to soil erosion. Burning (without control) is not accepted by FSC (principle 6), and is considered a mistake in caring for the forest. Whilst certified households rarely conducted this activity, non-certified households frequently did, as this as a local habit.



Figure 12. Vegetation was burnt (left) and no burnt (right) on the field

There was a difference in the way in which they took care of the forest by applying a thinning technique as a mechanism for eliminating "bad quality" trees. The certified households paid more attention and invested greater effort in taking care of the forest in order to produce

quality timber logs. On the other hand, non-certified owners' forests were managed poorly as after planting, silviculture was rarely applied.

Moreover, owners are required to leave trees (not to harvest) near watercourses, as per the FSC criteria of environmental protection. During our survey, only 9 families had their forests located near a watershed but, the statistical results showed no significant difference between the two groups.

### ***Harvesting Activities***

The harvesting process was notably different between the two groups. Non-certified households often sell their forest at a young age (4-5 years). Most of the harvest volume (approximately 60%) is small trees for chip wood, which they sell directly to an intermediary who then harvests the forest. On the other hand, certified forests in Quang Tri FSC group are required to apply a longer rotation (8-10 years) with offers a higher value due to bigger timber. The process of selling FSC-certified timber is complicated, owing to the FSC's Chain of Custody procedure. Therefore, the process for the certified households to hire a team and closely observe the harvest, and sell directly to a timber processing company (with contract), meanwhile non-certified household often sell to a middlemen or local processing enterprise.

Applying low-impact logging practices is a practice that only certified forest owners engage in, due to the training classes for FSC group members. Before harvesting, both certified and non-certified households conduct a pre-harvest inventory. There is no statistical difference identified between the two groups with regard to this practice.

### ***Environmental Protection Practices***

Both certified and non-certified farmers applied synthetic fertilizers, usually in the first year of the forest rotation. The difference between the two groups with regard to this practice was not significant. However, there is a difference in their use of herbicides, since it is

prohibited by the FSC. As a consequence, most certified households do not use herbicides, whilst most non-certified families do. Record keeping was also different between the two groups. While certified households have to keep records of every activity - such as the buying young trees and the type of fertilizer they use - almost no non-certified households do this. They buy young trees from different sources and no invoice or insurance. Certified owners collect nylon, garbage, and pay more attention to prevent and solve the problem of machine fuel spill on soil, while none certified does not care about these issues.

### ***Access to Financial Support***

Both certified and non-certified forest owners can access microcredit or get technical support from local agricultural and forestry agencies when required, so there is no significant difference regarding this issue. However, certified households have the additional option of attaining support from private timber processing companies. They are eligible to receive small loans from the companies when their forest are 4-5 years old, so that they can postpone and wait until the forest reach at least 7 years and sell certified timber to the company and deduct the loan.

### ***Involvement with the Local Development Plan***

All certified households possess a land certificate, as it is a prerequisite of FSC group membership (Principal 1). Many non-certified households, on the other hand, do not have a land use right certificate. Certified members are also more actively involved in the development of a communal social-economic plan. This is attributable to the fact that their plan of harvest, expansion, and quitting the FSC group has to be included in the community development plan. Meanwhile, non-certified care less about participating in developing this plan.

### ***Labor usage***

Certified forest owners and their labour are required to use personal protective equipments (PPEs) such as helmets, chainsaw trousers, shoes...; meanwhile the non-certified owners use normal tools and do not care about using safety products. Certified owners and workers also have more opportunities to receive trainings and study tour, etc... Which is organized yearly for both old and new household's member joining the FSC group.



Figure 13. A chainsaw operator using PPE when harvesting in FSC-certified forest

## 7.4. Discussions

Overall, the initial comparison indicates the fact that certified forest owners have adopted better forest management after joining the FSC group. However, the in-depth interviews with the FSC-certified members revealed that the most remarkable, and simultaneously, the most difficult change is that families have to extend their forest rotation to almost double the normal duration, because the FSC sustainable forest management requires at least 7-year rotation and the purchasing companies' preference for timber over wood chips. The question is whether the delay in income from selling the timber at 4-5 years rather than 7 years

and more has had any impact on social livelihood and bears any relation to the withdrawal of many households the Quang Tri FSC group (total 110 households). The reasons people provided for leaving the group are presented in Figure 4. The most popular reason people gave was the change in production purpose from timber to chip wood production, which evidently prove that many people still prefer a shorter rotation so that they have quick revenue for family expenses (Interviews).

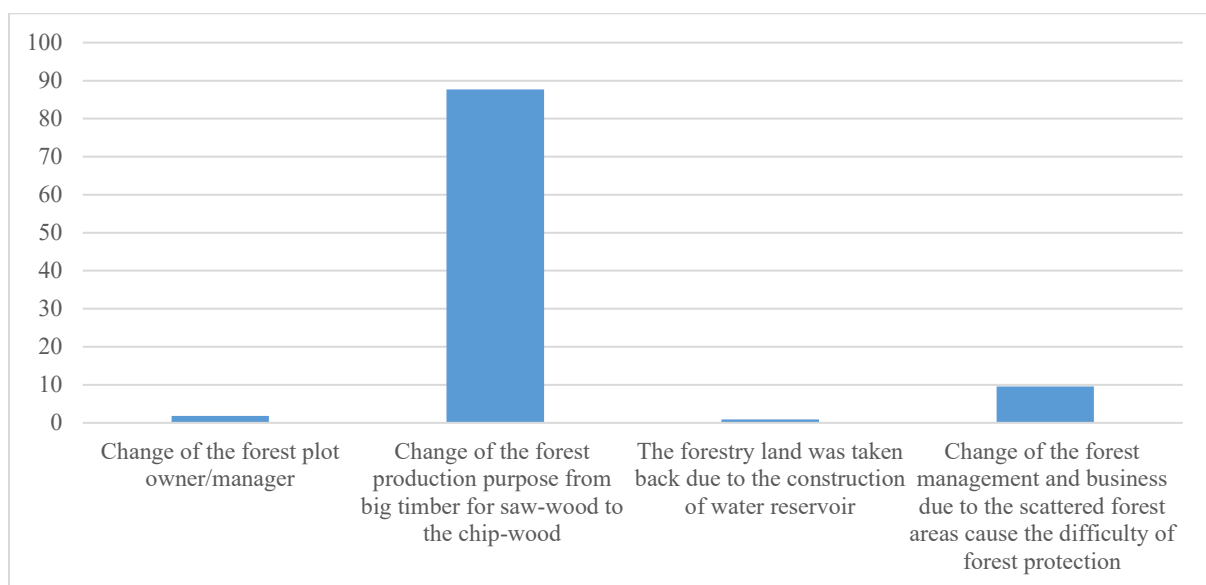


Figure 14. Reasons why forest owners left the FSC Certification Group

Source: The FSC group internal report, 2017

We found that there are several challenges for the maintenance and development of the FSC certification for small holders as discussed below.

The first challenge is the small holders are familiar with traditional independent or individual business. They are free to sell forest whenever they wish and do not belong to any group. However, when in order to be certified by FSC, small holders need to be organized into a group and have a mutual relationship with each other's. They have to follow the group



regulation and other procedure (e.g. harvest process; participate in training and meeting, ect...). Many people consider these things are troublesome and reduce their independence.

The second challenge is the management of the group. The FSC group has a group manager/head and need to have an internal control system or regulation in order to maintain the current number of household members and attract new members. Personnel are a challenging because it is difficult to find skilled and motivated people to take up key positions within the organization. In addition, the management group has to ensure the compliance of all group members with the FSC standards, which is burdensome task.

Another challenge is that household lack of incentive to pursue the FSC certification and show little ambition to improve their practice and revenue from the forest. Many households refuse to join the FSC group because the longer rotation is risky. They are afraid of economic loss in instances of disaster or forest fire (Table 3). As a result, many forest owners held the thought that “less but certain revenue” is better.

Obviously, the local smallholders need financial, technical and organizational support, therefore, addressing these challenges are essential in order to maintain their certification. The certification is a new and complex process and the FSC standards are difficult for local farmers (interview), therefore, farmers need the outside assistance in order to archive and maintain the FSC certificate. During the survey, most family forest landowner participants said that they are generally unfamiliar with the concept of forest certification and its standards. They worried about certification costs, and said without donor support, they would not be able to have enough money for certification. The availability of financial assistance to help cover initial and ongoing certification costs is one reason keeping the household pursuing the FSC.

We found no evidence to suggest that certification is leaving behind small landholders, as long as they have the secured land tenure. The FSC certification for low intensity managed

forests is the scheme that Quang Tri is now adopting. This type of certification allows the group to include as many households as possible in a single certificate. Forest owners of small land areas – usually between a single hectare and a few dozen hectares - can join the FSC group. As the financial burden of certification is not imposed on the farmers themselves, group members do not need to make large investments.

What they are worried is the longer rotation. Currently, the purchasing companies prefer FSC timber from a certain diameter (Hoang et al., 2015), therefore, those who stay in the FSC group have to maintain a longer rotation compared to that of non-certified forests (7-10 year versus 4 or 5-year rotation). Many people dislike the long rotation and therefore, withdraw from the Quang Tri FSC group. It is not easy to prevent the withdrawal from the group, though there is some feasible solution such as farmers receive supported through prolonged rotation through loans with little or no interest; and insurance for possible loss due to natural disasters, or even the output for small timber for chipwood.

## **7.5. Conclusions**

Overall, from the social aspect, the certification has brought opportunities of enhance workforce qualification by providing training classes (about silviculture, harvest technique,) Occupational safety is fostered as the certification requires the use of safety products while working. Besides, at our research site, the farmers were more involved in the local development plan and had more access to social networks and resources (e.g. company loans) which were not accessible to those who are not certified. These social benefits are similar to the study result of Dare et al. (2011) in Australia, where he found out that the certification also served the purpose of enhancing community engagement. Higher income of FSC wood sale (compared to

non-certified wood (Hoang et al 2015, Maraseni et al. 2017)) and more business opportunities are big benefits for the forest owners as joining the Quang Tri FSC group.

From the environmental aspects, certified farmers adopted significantly more environmentally friendly practices than non-certified farmers – in stages of forest management and harvesting, and other practice to protect environment such as conserving trees to protect water sources, sparing land to create pathways in order to prevent forest fire, and applying low impact logging techniques. This is quite understandable as forest certification affects the way forest owners manage their forest through addressing “improper and unsustainable” practices (Kooten et al., 2005).

In short, this study has found some positive effects of FSC certification based on evidence derived from the Quang Tri province FSC group. This hints at the potential of forest certification as a means to encourage adoption of environmentally friendly practices and to increase the social benefits as well as value of plantation forest production. In terms of sustained management of the forest, local people financial, technical and organizational assistance in order to keep up these positive changes.

Further study is required into the impact of the FSC on peoples’ income and livelihood in order to fully evaluate the effectiveness of certification at a local level.

## REFERENCES

- Auer, M. (2012). Group Forest Certification for Smallholders in Vietnam: An Early Test and Future Prospects. *Human Ecology*, 40. doi:10.1007/s10745-011-9451-6
- Blackman, A., & Rivera, J. (2011). Producer-Level Benefits of Sustainability Certification. *Conservation biology: the journal of the Society for Conservation Biology*, 25, 1176-1185. doi:10.1111/j.1523-1739.2011.01774.x
- Blackman, A., Goff, L., & Planter, M. (2018). Does eco-certification stem tropical deforestation? Forest Stewardship Council certification in Mexico. *Journal of Environmental Economics and Management*, 89. doi:10.1016/j.jeem.2018.04.005
- Bliss, J., & Kelly, E. (2008). Comparative Advantages of Small-Scale Forestry Among Emerging Forest Tenures. *Small-scale Forestry*, 7, 95-104. doi:10.1007/s11842-008-9043-5
- Cashore, B., Auld, G., Newsom, D., 2004. Governing through markets. Yale University Press, New Haven.
- Cerutti, P., Tacconi, L., Nasi, R., & Lescuyer, G. (2011). Legal vs. Certified Timber: Preliminary Impacts of Forest Certification in Cameroon. *Forest Policy and Economics*, 13, 184-190. doi:10.1016/j.forpol.2010.11.005
- Dare, L., Schirmer, J., & Vanclay, F. (2011). Does forest certification enhance community engagement in Australian plantation management? *Forest Policy and Economics*, 13, 328-337. doi:10.1016/j.forpol.2011.03.011
- Durst, P., McKenzie, P., Brown, C., & Appanah, S. (2006). Challenges Facing Certification and Eco-Labeling of Forest Products in Developing Countries. 193 *International Forestry Review*, 8. doi:10.1505/ifor.8.2.193
- Johannes, E., & Mai, Y. (2008). The Effectiveness of Market-based Conservation in the Tropics: Forest Certification in Ecuador and Bolivia. *Journal of environmental management*, 90, 1145-1153. doi:10.1016/j.jenvman.2008.05.003
- Giessen, L., Burns, S., Sahide, M.A.K., Wibowo, A., 2016. From governance to government: The strengthened role of state bureaucracies in forest and agricultural certification. *Policy and Society*, 31, (1), 71-89
- Hoang, T.N.H., Hoshino, S., Hashimoto, S., 2015. Forest stewardship council certificate for a group of planters in Vietnam: SWOT analysis and implications. *Journal of forest research*, 20(1), 34-42
- Italian Trade Agency, 2014. Sector Note on Wood and Furniture in Vietnam

Johansson, J., & Lidestav, G. (2011). Can voluntary standards regulate forestry? -- Assessing the environmental impacts of forest certification in Sweden. *Forest Policy and Economics*, 13, 191-198. doi:10.1016/j.forpol.2010.11.004

Kooten, G. C. v., Nelson, H., & Vertinsky, I. (2005). Certification of sustainable forest management practices: A global perspective on why countries certify. *Forest Policy and Economics*, 7, 857-867. doi:10.1016/j.forpol.2004.04.003

Meyfroidt, P., & Lambin, E. F. (2009). Forest transition in Vietnam and displacement of deforestation abroad. *Proceedings of the National Academy of Sciences*, 106(38), 16139-16144. doi:doi:10.1073/pnas.0904942106

Ministry of Agriculture and rural development (MARD), 2017. Document numbered 1819/QĐ-BNN-TCLN date 16 May 2017 titled “announcement of status of national forest resource”

Rametsteiner, E., & Simula, M. (2003). Forest Certification—An Instrument to Promote Sustainable Forest Management? *Journal of environmental management*, 67, 87-98. doi:10.1016/S0301-4797(02)00191-3

RECOFTC and AWG-SF. 2017. Social forestry and climate change in the ASEAN region: Situational analysis 2016. Bangkok, RECOFTH – the center for People and Forests

Tricallotis, M., Gunningham, N., & Kanowski, P. (2018). The impacts of forest certification for Chilean forestry businesses. *Forest Policy and Economics*, 92. doi:10.1016/j.forpol.2018.03.007

Vietnam investment review. 2015. Foreign furniture firms shift businesses to Vietnam. Access December 2017

## CHAPTER 8

### CONCLUSIONS AND POLICY RECOMMENDATIONS

#### 8.1. Conclusions

The main aspiration of this thesis was to evaluate the environmental, social and economic impacts of forest certification for small holders in Vietnam, to answer the central question: *How has the forest certification for small-scale forest owners been implemented in Vietnam?* In order to have the answer, the following four research sub-questions are raised:

1. In what context the forest certification in general, and certification for group of smallholders, in specific, has been implemented in Vietnam?
2. What are benefits and difficulties that the forest owners have to face when pursuing the FSC certification?
3. What type of costs and challenges that forest owners have to cope with during the maintenance of their certification?
4. Has forest certification changed the behavior/practices of forest owners?

After getting its independence in 1975, the Vietnamese government applied a state-center resources management, which has led to the degradation of forest in both area and quality. From 1990s Vietnam's forestry policies have shifted its focus from exploitation to protection and afforestation. In addition, there is a move from state forestry to more participatory forestry, and private property is introduced as a new forest management arrangement. Devolution of forest management right to local people has created opportunities for people to be more involved in forest management and more decisive rights on their forest plots. The private-owned plantation forest area has kept increasing. Vietnam becomes one of the world's largest exporting countries for wood and wood product. The country's integration to global market has brought opportunities for the forest sector and at the same time, created challenges because of

the market requirements. Though the wood processing industry has been growth very fast, most of the material sources have to import from overseas. It is clear that Vietnam need to foster the capacity of domestic material wood production in order to meet the demand from environmental sensitive export market such as EU, USA, Japan, etc. who require for the legality and tracability of materials and imposed technical barrier for timber products. The development of forest certification in Vietnam has received support both from state administrative and some NGO such as WWF and others. In short, the changes in national policies towards sustainable management of the forest; market requirements and regulations of international trade have contributed the expansion of forest certification in Vietnam. Though the context provides suitable conditions for the forest certification, the small-scale forest owners in Vietnam still face a lot of challenges in pursuing the certification, and the effectiveness of forest certification remains open (Question 1)

In chapter 5, using the SWOT matrix analysis, it has revealed the benefits and challenges of the FSC group certification. The FSC certification has created opportunities for plantation forest smallholders to participate in wider trade networks and sell the timber with FSC claim at higher price compared to non-certified logs. In addition, the management of forest following FSC standard encourage forest owners to apply a more environmental-friendly practices. However, to receive the certificate, each member has to follow FSC indicators and criteria, which can cause a lot of difficulties owing to their low expertise and the high-cost burden. In the research site in Quang Tri province the certification-associated costs are considered high compared to their forest owner annual income. An effective financial mechanism is indispensable for the group's self- development (Question 2)

The group face with average 4.54 EUR per ha for FSC associated costs. The most important is to set up and maintain an autonomous financial mechanism. The dependence on outsider support (e.g. NGO, counterpart companies...) may put the group in the weaker position when negotiate for selling certified timber. In order to bring down the total cost, the group can

consider ways to reduce the associated costs, e.g. spending for preparation activities, because they have gained experiences in the certification process and standard. Besides, the rise in the total number of household members may decrease the cost per ha. Most importantly, to be financially self-sustainable, a healthy budget managed by the group is critical. It is feasible to collect more money by attracting new members who are likely to earn higher selling price for FSC certified timber. High economic return is a very attractive point of forest certification (price premium for FSC certified wood was achieved at around 20-25%) to increase in the number of household members, and therefore, reduce the cost per household. Furthermore, the group has the opportunities of being supported from external sources such as NGO, FSC funds and governmental programs (Question 3)

In the social and environmental impacts aspect, this study has found some positive effects of FSC certification. It has brought opportunities of enhance workforce qualification by providing training classes (about silviculture, harvest technique,), the enhancement of safety products usage while working. In addition, the farmers were more involved in the local development plan and had more access to social networks and resources (e.g. company loans) which were not accessible to those who are not certified. From the environmental aspects, certified farmers adopted significantly more environmentally friendly practices than non-certified farmers – in stages of forest management and harvesting, and other practice to protect environment such as conserving trees to protect water sources, sparing land to create pathways in order to prevent forest fire, and applying low impact logging techniques (Question 4)

In short, this study has evaluated different aspect of forest certification. The results show that adoption of the FSC certification has brought economic benefits to the small holder via price premium and market access. They also benefit from better forest management practice due to the requirements of FSC standards. On the other hand, forest certification has raised challenges which may hinder the maintain ace of the certificate such as financial, technical and organizational issues. Though the assistance from outsiders is helpful to keep up positive effects



of the certification, changes in group management system and the household members themselves are crucial for the development of Quang tri FSC group.

## **8.2. Policy recommendations**

This section addresses some of the main suggestions that can be drawn from the research reported in this thesis for the adoption of certification. What are the broader implications for forest policy, and what recommendations may be drawn from the case studies examined in this PhD thesis? What can be done to help small-scale private owners overcome barriers of forest certification and operate sustainably?

First, one weakness of the small-scale plantation forest owner in Vietnam is that they perform low intensity forest operations. Thus, as noted, they prefer short rotation for wood chip production purpose. Changing the production purpose from short term to long-term rotation for sustainable management is a difficult task, considering the fact that most farmers in rural area have their livelihood depend on forest timber sale. Government should provide both technical and financial support direct to the small-scale owners. By having more favorable conditions, more landowners would certify their forest.

Second, most of certified timber is for exportation, the domestic market is left behind. Government agencies should invest more effort in developing domestic market demand for responsible timber products.

Third, the FSC standards are built by an international organization, and some requirements are not appropriate for small-scale forest in developing countries. Though FSC allows the country to build its own national standard (based on FSC standard), some criteria remain unsuitable for low intensity managed forest (e.g. Criteria 6.5), therefore, policy and procedural changes that directly targets small and low intensity managed forests are necessary.

### **8.3. Areas for further research**

The thesis identifies several areas for further research.

First, certification could constitute new, non-tariff barriers to international trade and can affect to countries access to markets and hence export opportunities (Conroy 2007). This is becoming increasingly important in a context of growing demand for certified products. The argument related to the presence of export markets is also supported by the fact that the companies in developing countries running for certification or holding a certificate are usually the export-oriented companies. Therefore, further research on impact of FSC certification on the forest products trade companies in Vietnam is an interesting theme/

Second, as the results found out that market play an important incentive on FSC adopt decision but how it might affect the livelihood strategy of local people is not clarified yet.

## Appendix 1

### QUESTIONNAIRE

This questionnaire is aimed to analyze the situation and potentialities of group certification in Vietnam, which is one important topic of my doctoral dissertation. All the answer will be coded and analysed for academic purpose and shall not given to any other party. Your name will not be mentioned, please feel free to answer.

Thank you very much.

Location:.....Date:.....

Household name:..... Gender: ..... Age.....

Education level:.....

Q1: Forest area:.....Year applied for FSC:..... Year obtained FSC:.....

Q2: What is your main livelihood

- Acacia tree
- Rubber tree
- Agriculture
- Aquaculture
- Other:

Q3. If possible, please circle your income range (monthly)

<2 million VND    >= 2 - 3 million VND    >= 3-4million VND    >=4 million VND

Q4. Why did you decide to apply for FSC?

1. To get higher price when selling wood
2. To better environment protection
3. Being recommended by local authority
4. Being recommended by INGO

5. Being recommended by other people

6. All above things is right

Others (please specify:.....)

**Q5: Who affect to your decision of applying for forest certification?**

1. Non-governmental organization

2. Provincial department of forestry

3. Mass organization (ex: farmer union, youth union, etc...)

4. Customers

5. Buyers

Others (please specify:.....)

**Q6. What or how do you know about forest certification?**

1. FSC is a certificate that can help to sell the wood at higher price

2. FSC is a certificate that people who apply for it need to adjust their forest management in a way that better protect the environment and certified wood can sell higher price

3. FSC is required my foreign market

4. FSC is required by domestic market

**Q7: How did you obtain FSC, please describe. Please mention about the certification cost as well**

.....

.....

.....

Q8: What changes have you made in order to obtain FSC?

Changes	Difficult/Easy	Notes

Q9. Before applying for FSC, to whom you sell you products?.....

After obtaining FSC, to whom you sell you product?.....

How is the price difference? Please tell.....

Q10. Is there any problems/difficulties when joining the group in order to get certification?

Later on, would you prefer to apply for FSC by yourself alone? Please explain your answer

.....

.....

.....

Q11: Please rank the importance of possible benefits of forest certification (from 'very important' to 'not important at all').

Gain access to certified markets

1 2 3 4 5

Create new marketing opportunities

1 2 3 4 5

Earn price premiums on certified products

1 2 3 4 5

Increased client demand for certified products

1 2 3 4 5

Differentiate my/our product from local competitors

1 2 3 4 5

Differentiate my/our product from national or multinational competitors

1 2 3 4 5

Learn about new forest management practices

1 2 3 4 5

Gain expertise in areas of forest management

1 2 3 4 5

Meet regulatory requirements

1 2 3 4 5

Meet high ecological standards in forest production

1 2 3 4 5

Gain recognition of forest management practices

1 2 3 4 5

Have an independent party affirm my/our forest management practices

1 2 3 4 5

Improve/maintain relations with the public

1 2 3 4 5

**Q12: Please rate how satisfied you are with those same aspects of FSC certification (answers ranged "very satisfied" to "not very satisfied")**

Gain access to certified markets

1 2 3 4 5

Create new marketing opportunities

1 2 3 4 5

Earn price premiums on certified products

1 2 3 4 5

Increased client demand for certified products

1 2 3 4 5

Differentiate my/our product from local competitors

1 2 3 4 5

Differentiate my/our product from national or multinational competitors

1 2 3 4 5

Learn about new forest management practices

1 2 3 4 5

Gain expertise in areas of forest management

1 2 3 4 5

Meet regulatory requirements

1 2 3 4 5

Meet high ecological standards in forest production

1 2 3 4 5

Gain recognition of forest management practice

1 2 3 4 5

Have an independent party affirm my/our forest management practices

1 2 3 4 5

Improve/maintain relations with the public

1 2 3 4 5

Q13: Your FSC application is supported by a project. After this project end, will you recertify your forest? Please explain your answer

.....  
.....

Q14: Will you recommend the certification to other people in/outside your village? Please explain your answer

.....  
.....

Q15. In your opinion, similar project should be done or not. Please explain your idea.

.....  
.....  
.....