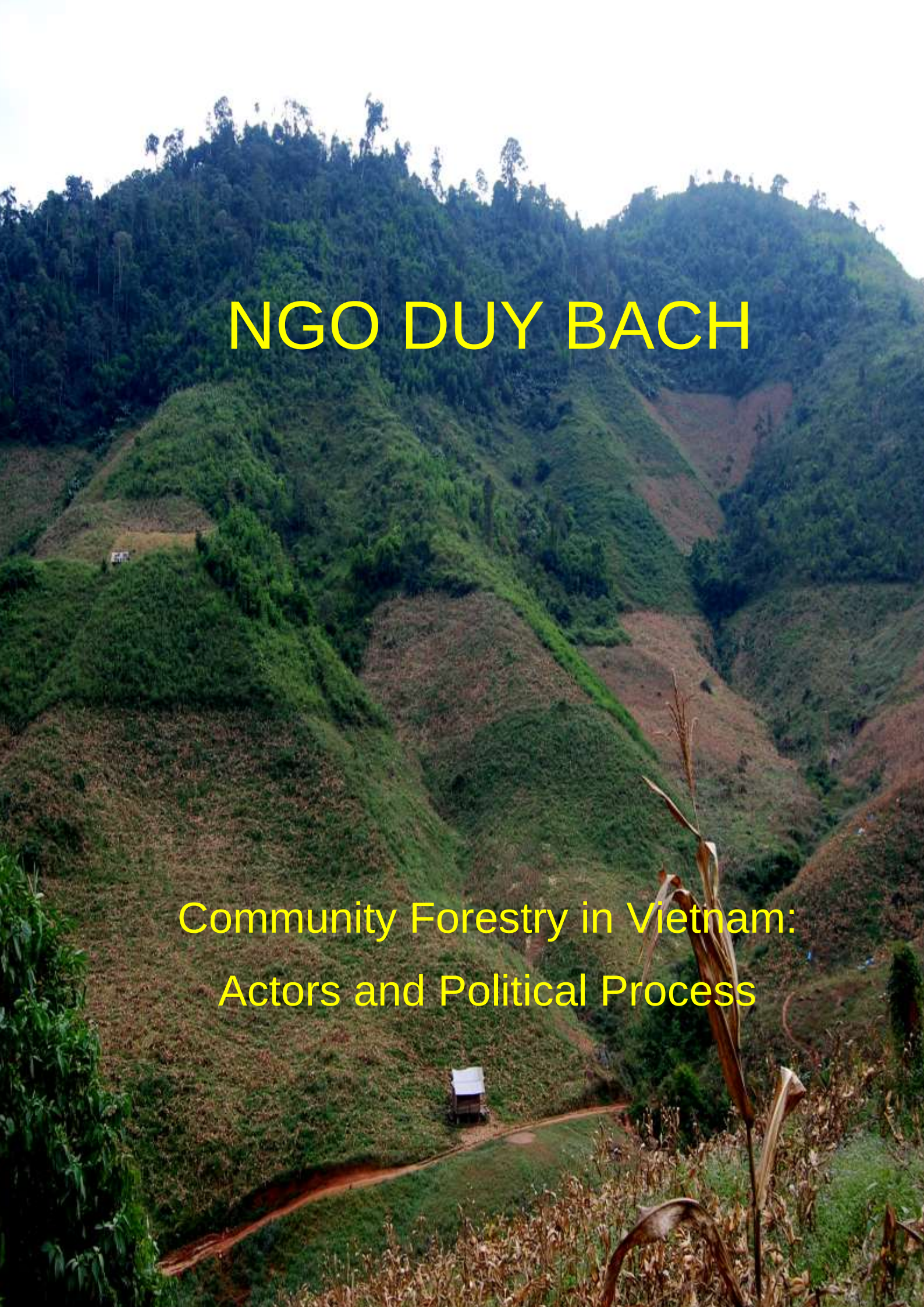

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Community Forestry in Vietnam: Actors and Political Process

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This research is a part of the comparative research on **"Actors, Interest and Power as Drivers in Community Forestry"** Conducted in the Community Forestry Working Group

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Research summary

Community forestry is an expanding model of forestry whereby a significant portion of responsibility for forest management is transferred from the state to the lower community levels. As such, community forestry aims to enhance accessibility of the direct forest users in forests and common decision-making process, as well as to improve forest management and restoration. Centralized forest management practices have been unable to successfully implement these promises on the ground; however, it remains to be seen whether community forestry can find success where the forests continue to be governed by the powerful relevant actors. It is observed that there exists a relationship between the context of political processes and the dynamics of social interactions among the actors involved in community forestry; when these actors and their power sources are focused upon, key factors might become identifiable. Scholars note that poor communities are vulnerable to the influences of powerful relevant actors, suggesting that these may be driving the processes and outcomes of community forestry. Based on this argument, the research hypothesis is *"**the activities and outcomes of community forestry are driven by powerful relevant actors***".

To investigate the issue, this research will examine cases of community forestry in Hoa Binh and Son La provinces as compared with the larger community forestry programs of Vietnam. Hoa Binh and Son La were selected for study as they contain both the largest amount of forest-covered land and the highest rate of poverty in Northwest Vietnam, both of which may serve to illuminate the features and practices of powerful actors in the community forestry movement. Qualitative and quantitative approaches have been applied to identify actors involved in community forestry as well as their power features and interests. In this research, power is defined as a social relationship whereby a potentate alters the behavior of a subordinate without recognizing his or her will. Resting on the power theories of Weber and Krott (citation needed), this research focuses on three elements of power: *coercion, incentives and dominant information*. The most powerful actors are identified across 15 case studies using quantitative analysis; of these, actors belonging to the political group are estimated to be the most frequent relevant actors involved in community forestry (see Figure 5.3). Further investigation demonstrates that forest administration and political actors are the most influential individuals in community

forestry in Vietnam. The results of the quantitative calculation of these actors' power elements show how actors build and consolidate their power to influence the outcomes of community forestry.

The outcomes, analyzed in Chapter 6 and displayed in Table 6.13, are estimated to be medium (valued 2) in most cases. This proves that the powerful relevant actors do not expect high social and economic outcomes for forest end users. Further studies on the interests of the powerful relevant actors provide scientific basis from which to conclude that the outcomes of community forestry are influenced by the powerful relevant actors. These results are in contradiction to the goals of community forestry, which aims to empower direct forest users and provide them with a means of economic contribution.

Analyses of the influence of powerful relevant actors in Chapter 8 clearly indicate that the appearance of the political actors and public administration validates the notion that community forestry programs are being implemented to serve state forestry goals. In other words, community forestry in Vietnam is, as the saying goes, old wine in a new bottle.

This research has discovered that community forestry programs in the research sites have created mixed impacts in terms of forest greenery and socio-economic improvement. However, the forest administration is still seen as the most influential of actors and as such is involved in most community forestry activities. Based on these findings, this study concludes that ***the activities and outcomes of community forestry mostly depend on the interests of the powerful relevant actors***.

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Abbreviation

CF	Community Forestry
DARD	Department of Agriculture and Rural Development
FPD	Forest Protection Department
MARD	Ministry of Agriculture and Rural Development
5-MHRP	5 Million Hectares of Reforestation Program

Chapter 1: The Context of Community Forestry in Vietnam

1.1. Overview

Located in Southeast Asia, with three forth of natural area covered with hills and mountains, Vietnam is recognized as one of the countries with the richness and diversity of the tropical forest ecosystems. In the 60th decades, many co-operatives had been established in the northern rural regions by the collectivization policy; accordingly, a new kind of controlled and centralized land management policy was developed in stark contrast with traditional forest management systems. This conversion would force the displacement and relocation of five million people across the high- and lowland areas, most of them ethnic minorities (Ngai 2009; Sang 2009). Consequently, forest degradation and soil erosion occurred on a large-scale, and forests rapidly declined both in quantity and quality, indeed, forest coverage was reduced from 43% in 1943 to 20% in 1990 (Sunderlin and Huynh 2005).

To address the rapid decline in forest coverage, the Vietnamese government implemented many policies, programs and projects, including:

- LA - 36, which strengthened the management of the exportation, exploitation and transportation of wood by order of the Prime Minister. This in turn forced the Ministry of Forestry (now the Ministry of Agriculture and Rural Development, or MARD) to better protect forests of all types, including special-use, limestone, and poor forests in need of regeneration;

- LA – 37, The Decision No. 327 of the Chairman of the Minister Council which called for a program to green bare lands, hills and mountains from 1992-1997.

- The Forest Development and Protection Law (1991) and Land Law (1993), mandated and approved in 2013, which together have formed the legal basis for community forestry implementation in Vietnam (LAs-02, 38).

Especially, that with the promulgation of two legal Acts: Forest Development and Protection Law in 1991 and Land Law in 1993 mandated and approved in 2013 have brought out the legal basis and facility for the community forestry implementation in

Vietnam (LA – 02, 38). These laws and policies create favorable conditions for forest management via forest allocation and protection under households, individuals and communities and are as such the foundation for effective community forestry in Vietnam. Accordingly, the Vietnam Forest Development Strategy 2006-2020 has ranked community forestry as one of its 20 top priorities (LA – 39).

To go with the changing forestry sector, external investment and support by sponsors and non-governmental organizations (NGOs) in the area of forest management in general and community forestry in particular have been growing. Notable projects include the Social Forestry Development Project in Son La and Lai Chau sponsored by the German Society for International Cooperation (GIZ) and the pilot project in community forest management sponsored by the Trust Forest Fund (TFF) under the management of MARD. In recent years, similar projects in community forestry have been piloted under the investment of the German Reconstruction Bank (KfW) in Quang Ninh, Hue, Bac Kan, Son La, and Hoa Binh provinces.

1.2. Community forestry in Vietnam

In reality, community participation in forest management is attracting much attention at the local, national, and international levels (Agarwal 2001; Pagdee et al. 2006; Charnley and Poe 2007). The term “Participatory Management” has become an indispensable word in development programs and projects in which emphasizing mostly to people’s participation (Agarwal 2001). By looking at definitions of participation as defined by Narayan 1995; and Conge 1998; participation can be understood as a move to the higher levels that manifest the people’s ability and activeness in the decision making process; equity enhancement. The importance of this engagement is undeniable and has been repeatedly demonstrated by researchers (Agrawal and Gibson 1999; Kellert et al. 2000; Pagdee et al. 2006).

In Vietnam, forestry practices of utilization and protection are closely tied to the local traditions of highland communities, most of which are ethnic minorities. Community forests have historically been closely connected to the lives and beliefs of the resident communities, as they rely on the forests and forest resources for survival. Confronted with the decrease and degradation of forests as a result of practices like legal/illegal wood

harvesting and slash and burn agriculture (Castella et al. 2005; Meyfroidt and Lambin 2008a, 2008b, 2009), the Vietnamese government has acknowledged community forest management as an effective practice garnering state concern and encouragement. As a result, they have implemented a policy of forest land allocation (FLA) in which communities in the northern, central, and highland regions of the country have been made responsible for the sustainable management and long-term use of their local forests (LAs-02, 09, 30, 35, etc.). FLA is considered essential in order for local communities to sustainably manage, profit from, and participate in forest policies and practices.

Along with the FLA policy, the Vietnamese government has been building the legal basis for community forestry management by renovating the policies of land profit and ownership up to now. With perception that FLA is an important, prerequisite and essential for local community to manage forest sustainably, profit from forest directly, and participate in decision making process actively; at the end of 2011, there are about 2,792,946.3 ha of total forest area that were allocated to and managed by organizations, households or individuals (Ngai 2009). Of this land: 1,916,169.2 ha is forested land; 867,777.1 ha is bare land and hills. The forested land areas managed by communities make up 15% of the total forest area of Vietnam (12,873,815 ha), most of which is natural forest comprising protection forest and special use forest that makes up 96% (Anonymous-12 2008; Phuong 2008). The popular types of community forest management are as follows:

- Type 1: Forests and forest lands used for forestry purpose are allocated to community to manage with the goal of long-term, sustainable use.

- Type 2: Forests and forest lands are recognized and managed by community for period of time, but are not officially allocated by the state (without any legal document: unallocated). These are often sacred forests, or forests otherwise providing traditional forest products for the local community.

- Type 3: Forests and forest lands owned by state organizations (e.g. forest enterprises or management boards of protection and special use forests) and used for forestry purposes are given to communities to protect, sustain, and regenerate based on a fifty-year perennial forest contract.

Whatever the source, community forests come under the management of one of three subjects: the local community, a family or a group of households/interest group. Each community forest management type has its own characteristics that correspond to and depend on the specific conditions (e.g., natural, cultural) of each region. These can be subdivided as follows:

- Community forests under the management of local communities or families are generally situated in remote areas, characterized by large populations of ethnic minorities and underdeveloped markets/production levels. Community forest management practices in these areas must therefore meet the subsistence demands of the local inhabitants. Forest products are mainly used for housing, fuel, and NTFPs for household and community demands. Based on these characteristics, the forests are managed in a traditional fashion based on local regulations by the community.

- The community forests under the management of an interest group or group of households are normally located in regions with developing markets and production. In such cases, the community forest management is organized in the various ways and higher level such as establishment of community forest economic organizations; co-operatives of community.

Community forest management in Vietnam is thus defined as "***the management patterns through which the local people manage natural resources within their boundaries where the forests have been controlled according to custom for long-time and/or legal rights by community***" (Wode and Huy 2009).

In addition to the legal framework for community forest implementation, sets of the technical instructions guiding community forest management have been designed; however, the local people are generally unfamiliar with legal documents, and as a resultthe contents of those documents are inadequately understood and applied within the community. Research on the subject has demonstrated that most community forest management models are self-forming and self-regulating inconsistent and mainly based on local experience and competencies (Nguyen 2008; Ngai 2009). These current patterns of community forest management consist of two significant aspects: the establishment of a locally organizational system within a community and the creation of local regulation as the basis for self-management and benefit adjustment. In these cases, responsibility and

benefit are self-regulated and self-implemented among the community members based on the interests of both the community and the individuals involved.

Realities of the patterns of community forest management indicated that local communities manage community forest in three management instruments as following: (1) by establishing management organization and operation based on the principle of the people's trust and choice with respect to the village patriarch or chief of hamlet; (2) by drawing up forest regulation that relies on local regulation; (3) by designing a mechanism of benefit sharing based on the community's agreement and the state policy.

Community participating in forest management is a reality, despite it is institutionalized or unrecognized; hence, community participation and the acknowledgement of their status as a legal entity is always profitable to forest management. Kellert et al. (2000) have argued that only the effective involvement of the people can contribute to forest conservation and produce expected outcomes for local community and forest practices. This is likewise noted in much of the existing body of literature, e.g., Oakley (1991), Singh and Khare (1993), Buchy and Hoverman (2000), and Stem et al. (2003). Like many other countries, Vietnam has implemented community forestry in the forested regions throughout the country; today, the program is often promoted as a means of tackling forest degradation and alleviating pervasive poverty among the ethnic minorities living in the highlands.

Strongly stressed by scholars, to realize and foster the potentials on overcoming the dual forest-related problem, the genuine devolution politically from state government to local authorities even at community levels is required in the program (Fisher 1999; Lachapelle et al. 2004; Nygren 2005). In this process commonly local forest users are involved in the decision making process and execution of forest practices. As indicated by Larson 2005-p.33 "*decentralization is a process of the transfer of powers from central government to lower levels in a political-administrative and territorial hierarchy*". This process consists of two models which can be seen from its definition, they are administrative decentralization and political decentralization. Case studies (Dachang and Edmunds 2004; Edmunds and Wollenberg 2004; Larson 2005) have indicated limitation of devolution that it is rarely followed by genuine power devolution to local forest users. Regarding to the forest sector, Wollenberg et al. (2008) pointed out whether the decentralization is executed in other ways (co-management and local governance); they chiefly serve to meet the objectives of

forestry programs. One hand, it (decentralization model) meets ecological goals (biodiversity, forest coverage, timber) and some economic benefit, but narrowly restricts available options of forest user. On the other hand, it can contribute to local development via increasing funding from forestry practices, but not public goals. This allows to conclude that none type is yet to fully met the expectations of community forestry programs (Wollenberg et al. 2008).

Abundance of studies on community forestry has sought to reasons/causes for community forestry process and/or analyzed this process over the related aspects. Many of them however concentrate on answering questions of attributes of local forest users, such as what is the role of local forest user (Singh and Khare 1993; Gibson et al. 2000); obstacles to the effectiveness of community forestry (Lachapelle, Smith et al. 2004); linkage between forest users and the forests (Pokharel and Nurse 2004; Nguyen 2006; Meyfroidt and Lambin 2008a); institutions for community forestry (Thomson 1992; Ostrom 1998). Although these studies provide crucial insights and explain the reasons that promote community forest management; the causes of failure or success of forest management programs, they do not answer whether political framework drive the outcomes and activities of community forestry. In reality, community forestry practice is yet to meet its perspective outcomes under the influence of political processes and interactions among actors related to community forestry.

1.3. Research Hypothesis

Scientific research on community forestry has pointed out success and failure as well as hindrance to community forest practices across the global. Despite its potential, nonetheless the outcomes gained via community forest activities have not met expected goals yet. By looking at community programs, besides causes leading to unsuccessfulness such as vulnerability, transparency, effective participation in decision making process, etc.; crucial factors hidden inside the political dynamics might be recognized by studying and analyzing the actors and their power resources. The question is if actors and their respective power influence activities and community forest outcomes while setting up community forestry program. Studies on local community and its institutions indicate that

there exists the interaction between local organizations and relevant actors that affect the expected outcomes of community forestry (Agrawal and Gibson 1999; Adhikari et al. 2004).

Looking at community forestry definitions defined by Martel and Whyte (1992), Eckhoml et al. (1984), Rao (1991) and other authors[1], although community forestry is approached in various ways, it on the commons agreed to each other at a very significant point that community forestry practice relies on the basis of community participation. In other words, participation of local community is an indispensable factor ensuring the success of community forestry practice. Lachapelle (2004) emphasized the importance of people's participation by observing the obstacles to the effective community forestry in Nepal. Several studies describe the related benefits that favor advantage groups or individuals (Sen and Das 1987; Oakley 1991; Malla et al. 2003). In fact, weakness of caste, low education and lack of necessary resources are considerable reasons causing local institutions to be vulnerable to the influences from the powerful relevant actors and advantage groups (Lachapelle et al. 2004). This unbalance amongst actors might lead to inequity during negotiation process. Edmunds and Wollenberg (2001:p245) argue that "powerful groups are likely to exert more influence over the course of negotiation and the implementation of agreements". Also Edmunds and Wollenberg (2002) continue arguing "the benefits of multi-stakeholder negotiations to disadvantage groups depend on how negotiations are undertaken. Our research suggests that many approaches to multi-stakeholder negotiation mask abuses of power and inequity". Analysis presented above leads us to confident consideration that the powerful relevant actors are those determining the processes and outcomes of community forestry.

We therefore bring forward a hypothesis that ***"Community Forestry activities and outcomes are dominantly driven by interests of powerful relevant actors"***.

In this research, relevant actors are defined as "those who have directly involved to and specific interests in community forestry and the potential to influence the community forestry processes". Thus, stakeholder refers not only to person, individuals but also organizations and social groups. Relying on the definition, research put assumptions: (1)

[1]http://www.rainforestinfo.org.au/good_wood/comm_fy.htm

relevant actors have impacts on the forest users' access to forest and participation in decision-making processes. They shape community forestry rested on the functions and values of forests. (2) Actors have their own specific interests over the forest practices with the expectations covering the entire social, economic, ecological and political scopes. (3) In community forestry process, actors always try to influence the others by using their advantages such as knowledge, customs, finance, legal rights. These advantages are considered as power elements that determine the power of respective actors in community forestry network. (4) Community is expected by political programs to produce positive outcomes in terms of economic, ecological and social benefits for direct forest users by decentralizing the state-centered power to local government units and local forest users over the forests.

In case, if the outcomes show open and or hidden benefits for the interests of the powerful actors, research hypotheses are proven. Moreover, the research assumes the powerful actors are not in the inner circle of community forestry network, but the outer circle. It will be really considerable for diagnosing community forestry practices, if this assumption is proven. This suggests new approaches and strategies for improving community forestry activities effectively.

1.4. Research objectives

With the effort to elucidate how powerful relevant actors drive and influence activities and outcomes of community forestry, this research comprises the following objectives:

(1) Identify the actors and their interests in community forests

Actors and their interests are diverse depending on specific localities and their positions at different levels. Stakeholder identification is a fundamental step to execute subsequent study paces. In this case, the research focuses on the actors those are involved in community forestry directly, instead of dealing with all of them.

(2) Estimate how actors' interests influence on CF's outcomes

Actors exert their influence on community forestry by wielding the assigned power in various modalities in specific circumstances. This means different modalities will be applied by the same actors to deal with the others that own the different power potentials. Thus, interest of the research is to explain how the actors promote their power and influence the relationships among actors in community forestry practices.

(3) Evaluate the outcomes of community forestry

The outcomes will be evaluated by comparing with the formal objectives of programs and policy on community forestry. Moreover, study result will examine if the outcomes of the specific community forestry support the interests of the powerful actors.

(4) Provide practical and scientific basis for proposing CF policies which are appropriate to the current conditions of Vietnam

This research reckons that only powerful actors hold enough power to influence the processes in community forestry network. Obtained results of powerful actor identification, CF outcome evaluation and correlation between the real-obtained outcomes and the interests of powerful actors over the community forestry programs are the scientific fundament to propose and improve community forestry policy in particular and forest policy in general in Vietnam.

1.5. Thesis structure

- **Chapter 1**briefly introduces context of community forestry in Vietnam and lays foundation of the whole research. Examination of the social relationships of actors involved in community forestry to identify the gaps for the research is also implemented in this chapter which is believed to be key factors in defining activities and outcomes of the community forestry programs.
- **Chapter 2** presents both logically and theoretically foundations to know how power elements are examined and how power is manifested on the field. Following the vein, power elements is further defined and explained how power is developed, manipulated, and wielded amongst actors in community forestry practices.

- **Chapter 3** will provide an overview of research methodology will be presented to explain the ways of approaches applied in the research from selecting the research sites, procedures of identifying actors involved in community forestry network. Also in this chapter, before doing qualitative approach to assess actors' features, a quantitative approach is applied to indicate their power in community forest network. Further, particular indicators evaluated outcomes of community forestry are justified in detail.
- **Chapter 4, 5, and 6** are the main parts of the research. **Chapter 4** brings readers an overview of community forestry at formal contexts. Related issues in community forestry such as definitions, goals, objectives, and actors are presented in this part. **Chapter 5**outlines actors identified in the cases of community forestry network and examines the power features of powerful actors, how they build power and exert it over the other ones. **Chapter 6** will focus on evaluation on the outcomes of community forestry rest on defined indicators presented in chapter 3.
- **Chapter 7 and 8**are dedicated to discuss whether current outcomes of community forestry fit to functions of powerful actors and how the powerful relevant actors influence the outcomes of community forestry through PIDOs and their power features. Lesson learnt will be presented in **Chapter 9** aiming to propose suggestions to the most powerful relevant actors in community in Vietnam case.

Chapter 2: Analytical Framework of Power Elements

"Herrschaft ist, wie gleich zu erörtern, ein Sonderfall von Macht"

(Authority is, as will be discussed, a special kind of power)

2.1. Determining the power elements

This chapter examines and identifies elements of power both logically and theoretically in order to gain a crucial, fundamental understanding of how powerful actors influence community forestry outcomes. Power itself is an abstract term, but most people however have an intuitive notion of what it means. Here, "power" indicates a relationship between people in society. Power is an important phenomenon in social relations and as such has attracted the attention of various scientific disciplines (Dahl 1957). Krott, in his book "Forest Policy Analysis", relies on Max Weber's classical definition of power in forestry when he says "those who utilize or protect forests are forced to subordinate their interests to politically determined programs in the face of conflicts… in fact, actors and political players both avail themselves of power" (Krott 2005:14). Because community forestry requires the devolution of forest management from state to local governments, an understanding of the ways in which power is distributed and wielded among actors is required in order to see how those actors influence and manipulate community forestry practices.

Starting with a dictum of power definition by Max Weber (1964:53) "*the probability that one actor within a social relationship will be in a position to carry out his own will despite resistance, regardless of the basis on which this probability rests"*. As noted above, power is manifested in social relationships, meaning that power also indicates the political standing or "will" of an actor. Relying on Max Weber's definition, power can be observed only elsewhere with the presence of resistance that is broken by coercion (Krott 1990). However, the question of how to verify power makes this definition difficult to apply to an empirical study. Although Max Weber mentioned "possibility of" exercising power as

equivalent to power (Weber 1978), the behavioral concept of power has its attribute weakness', for example Offe in Devkota R. R. (2010:8) noted that how influence cannot be verified. However, with the *threat* of power*,* the behavioral concept avoids Offe's paradox; the question then becomes how to measure the *threat of power*. To this end, Etzioni proposes examining the actor's resources and instruments (1975:333), while Krott (1990:90-93) asserts that by looking at what the threat is based on, power potential can be indeed be verified beyond its simple exercises.

Power can also be verified by observing the behavior of the subordinate. A subordinate can appropriate the preferences of a potentate in two ways: first by obeying the potentate's order without question (*unchecked obedience)* also known as "dominant information"; and second by **a congruence of interests** which requires information to accomplish a critical check and autonomous decision making. Only in the case of dominant information, processes of power are evident in the former instance as here the subordinate does not make a decision of his own free will; rather he or she follows the powerful actor regardless of interests, but instead based on a brief review of that actor's resources. The subordinate's anticipatory obedience can be verified empirically when he/she makes a decision on the information he/she possesses (Simon 1981, p.155).

However, even if a subordinate posses all the relevant information and is capable of making an autonomous decision, his behavior can still be altered through **"Incentives"**. In this manner, the potentate compensates the subordinate's surrendering of his interests by "paying" to the self-interest of the subordinate. Thus, the decision-making process will never be completely outside the structures of power because the resources available to the potentate and the subordinate set the stage for the subordinate's decision. If the potentate has significantly more dominance in resources, he can increase the incentives or disincentives up to a level the subordinate will accept. The subordinate who has little resources only has no chance to follow his own interests. E.g., if the subordinate prefers picking mushrooms the potentate can set a fine or price for picking them. If the subordinate has insufficient money to pay, he/she must to stop picking mushrooms regardless of their personal preferences. This also holds true for incentives, a subordinate with insufficient resources has no other choice than to change behaviors in order to receive the incentives. A free decision is possible only in the case of sufficient resources

on both sides; unfortunately, the fixed distribution of resources is the "hidden" power frame linked to any disincentive or incentive (Hubo, Krott 2016). Following Max Weber's definition and the aforementioned considerations, the concept of power applied in this research can thus be stated as follows: ***"Power is a social relationship, where actor A alternates the behavior of actor B regardless to B's will".***

For this research, concepts of power presented above reveal that power itself is comprised of three elements: ***coercion, (dis)-incentives*** and ***dominant information***.

2.2. Actors' power in community forestry

As has been discussed and dictated by many scholars (e.g. Agrawal et al. 2008; Kleinschmit et al. 2009; Cashore and Stone 2012; Krott et al. 2013), community forestry is often viewed as a new trend in the ways of forest governance whereby responsibility for governing forests is decentralized and transferred from state to local governments. The failure of community forestry programs is often due to powerful actors who misuse community forestry for their own interests, a reality that represents a significant obstacle to comprehensive success (Krott et al. 2013). Forest governance should therefore be seen as an integration of public and private structures in the utilization and conservation of forests, in the interactions of which many actors are involved.

Political actors and their power play a decisive role in the broad trends of forest governance, which in turn has been identified as an important factor in implementing community forestry (Shackleton et al. 2002; Edmunds and Wollenberg 2004; Agrawal et al. 2008; Kleinschmit and Krott 2008; Kleinschmit et al. 2009; Maryudi 2011). Studies on community forestry by Devkota (2010), Maryudi (2011), Maryudi et al. (2012), and Schusser et al. (2012; 2015) have pointed out the driving forces behind actors' power in community forestry. Although community forestry theoretically is a process of handing control and responsibility over forests to the local people for sustainable management goal, this transfer is often incomplete, with higher-level governments still retaining some control (Sikor and Nguyen 2007) as a result of political/economic processes and local power relations (Wollenberg et al. 2008). Devkota (2010) and Maryudi (2011) emphasized in their research that actors dominating power drive community forestry for their specific

interests. Such power is difficult to observe without political research; however, such research can shed light on the power processes behind and wielded by political actors. Krott et al. (2013) resting on studies on community forestry approached power relationship analysis to find out powerful actors involved in community forestry network. Consequently, a new theory-based and empirically applicable framework has been developed for assessing actors' power called as Actor-Centered Power, in which power process and its elements; linking power; the ways actors influence forestry; and empirical observation of power of specific actors are taken into account while analyzing power.

Power practically is hidden by proxy terms used by forest policy authors like "influence", or "capacity". Regardless of used terms, Silva (1997) and Winkel and Sotirov (2011) address that those terms refer to power essentially. As previously stated, powerful actors implementing National Forest Programs serve their own strategic goals and although power itself is the most fundamental building block of political science, it is an abstract term that has been defined in many ways and via many approaches (e.g. power is 'having resources', or dispositional power such as money, knowledge, personnel, weapons, etc.) (Arts and Tatenhove 2004). According to Arts and Tatehove (2004, p.347), power theories are sorted along important dichotomies: "*Some power theories situate power at the level of the acting agent, while some others situate power at the level of structures".* Focusing on the acting agent therefore supports our goal to clarify the power of specific actors. However, power may also be considered in another dichotomy—in organizational and discursive terms, it may be linked to 'having resource' and 'achieving outcomes'. These dichotomies of power are guidelines for analyzing the roots of actor-centered power.

2.3. Definition and theoretical roots of actor-centered power analysis

Weber's definition of power takes into account the political standing and "Will" of an actor and makes clear that an actor can do specific things with his power (Weber 1993). In community forestry, "actor" is defined as acting entities (e.g. individuals, groups, organizations, traditional authorities, forest administration, community forest committees, etc.) taking part in the formulation and implementation of community forestry. (Krott et al. 2013). These actors have their own strategies for using their available power resources

and applying them to another entity in pursuit of their goals (Few 2002). Tracing the power elements of different actors in this way in order to analyze power relations is called the actor-oriented power approach Initially applied by Dahl (1957) and further developed by various scholars (Arts and Tatenhove 2004), this approach is capable of examining power structures in which the actor can make use of rules, discourses, ideologies or other structures as sources of power to strengthen/consolidate what power he already has (Krott et al. 2013). Scharpf (2000) believes that a considerable portion of power can be observed by focusing on actors, their perspectives and the way they wield.

Krott (2005:282) notes that outcomes in forest policy are caused by a complex set of factors such as economic intervention, technology used, and reaction of the ecosystem. Many power theories fully link and integrate the outcome into the definition of power, meaning that a part of power lies in achieving policy outcomes. However, as said by Krott (2005) a specific outcome is caused by a variety factors and not just the activities of actors alone. Unexpected and undesirable changes in factors can influence the expected outcomes of a specific actor, regardless of how that actor intervenes in the process (Krott et al. 2013); it is therefore important to keep separate the definitions of a specific actor's power and achieved outcomes. Within a social relationship, an actor can manipulate his power to adapt a specific activity (Dahl 1957), raising the question of who the most powerful actor is and how that actor can be defined? As analyzed above, actors' interactions relate to structures, discourses, and achieved outcomes; from these, actors can be well-defined. Following the given argument, actor-centered power is defined as *"a social relationship in which actor A alter the behavior of actor B without recognizing B's will"* (Krott et al. 2013:4).

2.3.1. Coercion

Coercion is the practice of forcing another party to behave in an involuntary manner by using threats, intimidation or other forms of force and pressure expressed through: physical coercion and/or psychological coercion. Coercion is thus built on the basis of a power source's force and is defined as "altering the behavior of the subordinate by force". As the application of pressure, coercion is the exerted force of the potentate over the subordinate and can include physical harm through another person and/or weapons. Because force requires extensive control and can result in the subordinates' use of

counterforce, it tends to be the most obvious but least effective form of power. Krott et al. (2013) emphasized that the threat of force is very important and that the effects of the threat depend on both the visibility of the sources of the force of the potentate and on the imagination of the subordinate.

On the basis of thee arguments given above, coercion can be defined as "*altering behavior with force*" which includes the threat of force regardless of whether an actor is capable of carrying through that threat. In addition to physical force, subordinates may experience psychological force (Popitz 1992) that attempts to alter their minds without using physical means. Such psychological processes are considered incentives or disincentives these will be presented later. Krott et al. (2013:4) once again stressed that *"the key impact of physical force is that it alters the behavior without recognizing the will"*.

Coercion is not hard to be seen because the force caused by physical actions provides proof which can be observed in the field. In forest policy, physical actions associated with force could include the building of a fence, running the forest ranger force equipped with weapons. In fact, threats can be observed directly or indirectly depending on whether they are announced in political processes or public/in closed discourses (Krott et al. 2013). Moreover, the threat of force can also be identified via the means of physical actions that the potentate wields.

Although the threat of force alters the subordinate's will, it does not necessarily mean that the interests of the subordinate are threatened. Because our definition of coercion has clearly stated that the subordinate's will goes unrecognized in power processes, it is possible that the subordinate’s goals are still served by the powerful actor’s manipulation of those processes. For example, the obligation to harvest a sustainable amount of wood only is often implemented by coercion of forest administration, but serves the long term interests of forest owners well.

In the forestry sector, the potentate can use physical means to influence both the subordinate (e.g., by using equipped weapons) and nature (e.g., by cutting off a branch or cutting down a tree) to impose the potentate's will. However, this use of force is different from those within social relationships because it does not alter one's behavior later. This distinction helps to separate ecological-technical forces from physical actions, in which

ecological-technical interventions can be better analyzed by natural sciences on one hand, while potential of altering one's behavior belongs to the social sciences. Krott et al. (2013) emphasize that ecological-technical influence is easily mistaken for coercive power; thus, by applying the criteria of behavioral change, both types of forces are clearly distinguished.

In a community forestry network, an actor can stand alone or interact with others within the network. The most important characteristic of such networks is the formation of coalitions between actors through which they provide each other with additional sources of power. A coalition is comprised of formal and/or informal allies who provide a broad array of visible power options, including regulations stipulated by law which create legal rights of control and sanction to specific actors in a community forest process.

2.3.2. Incentives and disincentives

Incentive is something that motivates an individual to implement an action to achieve oriented goals. It could be materials, finance, or knowledge which improves actor's competence to higher grade in term of self-implementation of a specific action. In economic theory, incentive is as an important factor that helps to explain how markets work (Starr 1978:171 in Krott et al. 2013).

Although opportunistic behavior has strong negative connotations from a moral standpoint, it is also more neutrally defined as: a) putting one's own self-interest before other interests when there are opportunities to do so, or b) flexibly adapting to changing circumstances in order to maximize self-interest. In addition to looking at models of opportunistic behavior, we also look at behavior from the perspective of both potentate and their subordinates in a community forest network. Both potentate and subordinate have their own wills to inform their opportunistic behaviors; however, the former rests on dominant sources of incentives he has at his disposal, whereas the latter has insufficient resources to offer incentives.

As mentioned above, one's personal desires and goals will be put before other interests when the opportunity arises. The subordinate will thus keep his own will in mind, even when following the potentate's wills. This means that if the subordinate were to find a better source of incentives, he would no longer follow the potentate's will (Krott et al. 2013). In actor-centered power approach, incentives offered by potentate are not integrated into the overall evaluation, but are instead considered external to subordinate's

will about what to do in the forest. This acceptance does not mean the conflict between the interests of the potentate and prior interests of the subordinate is over, even though the latter's behavior will be adapted to the potentate's will.

Unlike incentives, disincentives are seen as something that prevent or discourage an action. Krott et al. (2013) defined disincentive as something that "*altering the behavior of the subordinate by means of disadvantages or advantages*". This means that in power processes, the potentate creates disadvantages for the subordinate with the aim of altering the subordinate's behavior and disregarding his will. Such disadvantages are applied until the subordinate changes his behavior in the direction of the potentate's goals. In case the subordinate does not agree with the penalties by the state and will not support them with his will, the state can increase disadvantages to such a higher level that force the subordinate to follow the wishes of the state. In Vietnam, for exam, a state decree (LA-02) prohibits hunting, illegal logging, and other activities that damage the forest ecosystem. On the basis of this law and binding guidelines, the subordinate must adjust his behavior to follow the state's wishes regardless of his will; doing otherwise could result in a penalty. However, the state must obviously prove the misbehavior of the subordinate in order to apply the consequences.

The power process of advantages is implemented in much the same was as that of disadvantages. Advantages work as an exchange mechanism in which the potentate influences a specific behavior of the subordinate by offering incentives. Both disadvantage and advantage processes are linked to power processes and appear more flexible than the use of coercive power. Applying disadvantages (penalties) and advantages (subsidies), especially over poor communities, might be more effective in altering behavior and overruling the will of the subordinate. Krott et al. (2003) argued that *"within a power-free environment, all actors would have free access to all sources. Limiting the sources of specific actors is a power process and without such limitation the value decision of the actor would be different. Therefore decisions are not only value-driven but also power-driven as well".*

As with coercion, the sources of disincentives and incentives are very diverse. “Incentives” refer to both tangible material gains like economic capital and technical support like machines, furniture, plants, seedlings, food, or even labor. “Disincentives,” on the other

hand, refer to immaterial sources and penalties that affect the psychology of the subordinate. Yet another aspect in play here is that of morality, which, when imagined in terms of right vs. wrong, can comes to label a potentate's actions. Morality can be observed through discourses and is often a disciplinary means within a given society. A public and professional discourse of morality often informs popular thought and the demands of public policy to a great extent. Powerful actors may use discourses of morality as a source of power and to manipulate subordinates.

2.3.3. Dominant information

Information is any propagation of cause and effect within a system; it is knowledge and data conveyed through direct or indirect observation, and when compared with coercion and disincentives, seems gentle and positive. In community forestry, dominant information is defined as *"altering the behavior of the subordinate by means of unverified information".* In power process, apart from coercion and (dis)-incentives, the potentate can use information to alter the subordinate's behavior regardless of his will in cases where the subordinate is unable to verify the information provided by the potentate. If the subordinate uses information provided by the potentate to make a decision without checking its accuracy, he has become dependent on the potentate (Simon et al. 1981 in Krott et al. 2013). Not checking information could either be voluntary or mandatory, depending on the subordinate's confidence, relationship to the powerful actor, or competence in doing research.

When the relationship between actor and subordinate is based on mutual trust, the subordinate’s decision not to verify the actor’s information may be a voluntary one. In this power process, the subordinate expects benefits and good will from his cooperative behavior with the potentate. Krott et al. (2013) emphasized that *"ideologies demand from the subordinates that they follow the key arguments and prevent them from checking truths of these arguments"*. These ideological discourses thus provide a strong basis for dominant information in the interests of the potentate. An ideology of integrating forest management with social demands from forest makes it difficult to clarify the links between forest management, wood production, and other functions of forest such as biodiversity conservation, protection. Schusser et al. (2013) noted the role of dominant information and power provided to foresters and forest owners in community forest case studies in

Germany. There the foresters provided false information to members of the community in order to gain the acceptance of community on forest management plan. This is a typical example of dominant information as utilized in community forest process.

When the subordinate accepts the provided information due to a lack of relevant information, research capacity, or sources, it is seen as compulsory. Certainly forest administration staff trained at universities possess more professional knowledge on forest management and protection than laymen, but this expert knowledge makes the foresters more powerful than the other actors in terms of dominant information on forest management, as they are the only ones capable of verifying that information (Brain and Freidson 1988). Ribot (2001) noted that NGOs and other such associations can play a monitoring role over natural community resources and demonstrate their power via dominant information. His argument -*"democratic decentralization experiment has not yet happened"*- emphasizes that natural resource management in general and community forestry in particular has served to improve state control over forests and forest resources rather than decentralized it. However, knowledge exchange and making use of local knowledge are among the core factors of a participatory approach in community forestry, meaning that dominant information is not always used against the best interests of the subordinate, even though it at times negatively affects them (Ribot 2001; Krott et al. 2013). It is concluded by Krott et al. (2013) that despite the best interests and / or right advice for the subordinate, his behavior is manipulated according to the will of the experts, which means that there is a power process in action.

Moreover, the foresters' knowledge can be used to either support or go against the interests of the forest users, in some cases, it may do both. One case study done by Schusser et al. (2013) discussed an instance in which foresters used their information to manipulate the community by giving them false information on the amount of harvestable timber. On subjects like biodiversity, expert knowledge is the only way to get data, but due to the complexity of the subject matter, the subordinate is unable to verify information and make a decision on it. As a result, Schusser (2013) noted that powerful actors determine biodiversity because they are better informed and do not share all their information with forest users or less powerful actors. In this vein, Devkota (2010) stated that a subordinate's decision-making process can be observed as follows: if the subordinate

neglects to verify information due to a lack of knowledge, confidence, or other causes, he is exposed to the power of the potentate.

Summary

On the basis of the explanation presented above, the power elements, power instruments and examples of actor-centered power can be summarized as following.

Power elements	**Definition**	**Observable facts**	**Example**
Coercion	Altering behavior by force	Physical action, or threat with, sources for physical action	Decision on removal of forest use rights based on threat, law
(Dis)-incentives	Altering behavior by (dis)-advantages	Providing of, or threat with, sources of material or immaterial benefits or detriment	Financial support for afforestation
Dominant information	Altering behavior by unchecked information	Providing of, or threat with, sources of information uncheck due to lack of knowledge or will	Expert knowledge on how to manage forest sustainably such as forest management plan

Chapter 3: Research Methodology

3.1. Introduction

In the course of this research, a mixture of qualitative and quantitative approaches were used to 1) provide a complete, detailed description of the research topic (quantitative) and 2) classify features and construct statistical data/figures to explain what is observed (qualitative). To this end, qualitative methods supported the generating of our hypotheses, while quantitative methods tested them (Kelle and Erzberger 2004); the results were mutually reinforcing (Bryman 2012). A case study approach was used to investigate and explore multi-faceted, complex issues, as well as deliver in-depth knowledge regarding specific inferences (Crowe et al. 2011) an appropriate approach for investigation at the field level. By using a case study approach, interrelations among actors in a community forestry network will be examined via formal and informal interviews from the micro- to the macro-levels. Much of the research is based on interviews and secondary documents; the primary field data was gained from semi-structured and open interviews, discussions, and other contact with actors in the community forest network. Additional records, informal interviews, and observations complement the research data.

Table 3.1: List of interviewed actors' members*

No.	Type of Actors	Position	Date
1	University	Chief of Environment and Forest Ecology Institute, Forestry University of Vietnam	10 Oct 2012
2	University	Deputy of Post Graduate Faculty, Forestry University of Vietnam	11 Oct 2012
3	University	Deputy of Training Department, Forestry University of Vietnam	11 Oct 2012
4	Forest Administration	Chief of forestry development department, Son La Province	20 Oct 2012
5	Donor	Chief Coordinator, Management Board of KFW7 project, Thuan Chau district	5 Nov 2012
6	Donor	An officer, Management board of KFW7 project, Thuan Chau district	5 Nov 2012
7	Forest administration	Vice director of Thuan Chau Forest Protection Section	5 Nov 2012
8	Forest administration	An officer of Thuan Chau Forest Protection Section	5 Nov 2012
9	Village administration	Chairman of Muoi Noi Commune	6 Nov 2012
10	Village administration	Vice chairman of Muoi Noi Commune, Thuan Chau district	6 Nov 2012
11	Traditional Authority	Chief of Muoi Noi Commune, Thuan Chau district	6 Nov 2012
12	Forest user group	Group Leader of forest patrol, Muoi Noi Commune, Thuan Chau district	6 Nov 2012
13	Village administration	An officer of Chieng Bom Commune	7 Nov 2012
14	Village administration	Chairman of Chieng Bom Commune	7 Nov 2012
15	Traditional authority	Chief of Hon hamlet, leader of CF management board	7 Nov 2012
16	District government	Chief of Agriculture department, Thuan Chau district	7 Nov 2012
17	Forest administration	Chief of Bac Yen forest protection section	8 Nov 2012
18	District government	Deputy of Environment and resource department	8 Nov 2012
19	District government	Deputy of Agriculture department	8 Nov 2012
20	Donor	Vice director of management board of KFW7, Chief coordinator	9 Nov 2012
21	Forest administration 3	An officer of Forest Protection Section, Muong Khoa Commune	9 Nov 2012
22	Village administration	Vice chairman of Muong Khoa commune, a member of KFW7 project	10 Nov 2012
23	Village administration	An agriculture and forestry officer, Muong Khoa commune	10 Nov 2012
24	Traditional authority	Chief of Chen hamlet, leader of CF management board	10 Nov 2012
25	Forest user group	Group leader of forest patrol, Muong Khoa commune	10 Nov 2012

Source: Field survey 2012

**Note: further and detail information of informants and interviews can be seen in the Appendix 3*

Data collection was divided into two phases over eight months. The first phase, from October 2012 to January 2013 in Son La province, focused on the selection of community forests and implementation of a network survey. Data and information gained from informants and documents was the basis from which to identify powerful actors in each community forest network, and in-depth, qualitative interviews were conducted with the identified powerful actors. Also during this period external meetings and discussions with researchers and forest user groups were conducted to enhance and reinforce collected information via interviews and available records.

The second field survey was conducted from March 2014 to June 2014 in Hoa Binh province. As in the first stage, a quantitative survey was conducted among all actors in the community forest network in order to identify the most powerful actors. A second qualitative survey was conducted among these powerful actors to make a power prognosis.

3.2. Selection of Community Forest User Groups

As mentioned above, selected case studies were carried out in two neighboring provinces (Son La and Hoa Binh) in Northwest Vietnam. According to reports, these provinces have the most remarkable community forestry activities in the country (Ngai 2009; Sang 2009). Because of the variety of communities, there is no common, one-size-fits-all community forestry model that has been applied; rather, various models appropriate to the provinces' specific conditions are needed. Social and natural characteristics such as the high poverty rate, high concentration of ethnic minorities, and amount of forest cover -in tandem with a long history of social forestry (Lung and Anh 2001)- are advantages for the effective implementation of community forestry practices. These practices in turn directly contribute to the alleviation of poverty and hunger in the region.

3.2.1. Community forestry activity in selected sites

In Vietnam, although forests are under the state administration, allocated to individuals, households, organizations to manage; protect and develop according to the state's legislations (LA - 02). As previously mentioned, there is no single community forestry model applied across all regions of Vietnam; rather, the ways in which community forestry

activities are implemented depend on the specific conditions of region (e.g., customs, cultures, natural conditions) as well the communities themselves. Currently, community managing forests in Vietnam is a practical activity. This practice has pointed out many forms and the ways that community participates in managing forests. Whereas, the legal and political respects of beneficial mechanism to the community are gradually, but continually, improving (see Box 3.1).

Box 3. 1: Rudimental issues of forest administration in Vietnam

In the period from 1955 – 1975, the Ministry of Agriculture and Forestry was established with the goal of using logging as a means of rebuilding the country. By 1975, 200 state-forest enterprises had been established to this end. Since the establishment of a forest ranger force at the district level (LA-31), forestry activity has begun to focus on forest protection, although overlaps in forestry management/responsibilities between state forest enterprises and the forest protection agency have muddied the waters. As a result of the program, forest management at the commune level has been handed over to commune officials, as the local government has proven itself unable to undertake its assigned tasks due to the lack of manpower and professional ability (To and Tran 2014).

In the early 1980s, the decline of the forests (in both quality and quantity) and the depletion of forest resources (e.g., timber) precipitated a period of crisis for the forestry sector (Sikor 1998). The resulting "Đổi mới" policy of 1986 changed a centralized economy into an oriented market economy, which in turn has generated essential improvements in economic management in Vietnam. The allocation of forest land to the local population, in tandem with policy and methodological modifications in the forestry sector, has paved the way for development in the highland areas (Sikor 2001). Land Law (1993)[2] and Forest Protection Law (1991)[3] form the important legal basis for forest land allocation to the various entities. By the end of 2011, 2.6 million certificates of land use rights had been licensed to entities receiving forestland[4]. Although the role of households would become more important in producing forest resources and contributing to poverty alleviation in the

[2] The first law was approved by the National Assembly on July 14th, 1993. It has since been amended several times.

[3] The first Forest Protection Law was approved by the National Assembly on August 12th, 1991. It has since been amended several times.

[4] The official website of General Department of Land Management: http://www.gdla.gov.vn/index.php?option=com_tailieu&task=detail&id=66.

highlands, state forestry still played a decisive role by means of forest enterprises and management boards (UN-REED and MARD 2010; To 2012).

In 1999, Decree No. 163/1999/NĐ-CP (LA-32) provided guidance for the allocation and leasing forest land to organizations, individuals and households for forest management purposes. This has created favorable conditions in which community may conduct forest management activities. However, the legal basis for communities was not recognized until the passing of the Land Law in 2003 and the Forest Protection and Development Law in 2004, which created a barrier for legitimizing these approaches. Along with Decree No. 163, the National Forest Development Strategy made it clear that planted forests, production forests, and protected areas/forests (historically attached to a community) are available for allocation to villages. With these positive changes in public administrative reforms and poverty alleviation, there is now a legal framework for implementing forest management, protection, and utilization, in which communities are considered key actors.

Community forestry activities in the research sites are marked by both the 2002 allocation of forest land to households and individuals and a 2010 community forestry development project (KfW7).

3.2.2. Criteria on research site selection

Because there exists a wide variety of community groups currently in different phases of community forestry, the case studies for this research were selected according to several factors: the developmental phases of the forest user group, the condition of the community forests, and with and/or without the support of international donors. Field observations revealed that some groups have implemented community forestry activities without the support of international donors, while others have already been established or are in the process of formal registration with international venues of support. Community forest conditions, including designations of “rich” vs. “poor” forests, are determined by both the production potential for and demands on the forest. In this research, a community forest is considered rich if it has high potential for production, whereas poor community forest refers to those with low production potential.

- Development status: Development status consist of two stages: the initial stage, where community forests have been so registered but not yet formally handed over to forest user

groups, and the advanced stage, where community forests have been under the formal control of forest user groups for at least five years at the time of this study.

- Production potential of outcomes: Every community forest has social, economic, and ecological outcome potentials, or a combination thereof. The production potential refers to a community forest's capacity to handle the social, economic, and ecological outcomes that are the result of site conditions. Short-term indicators, like forest state conditions (rich or poor) and total forest areas (absolute or relative) are used in tandem with long-term indicators like soil productivity to assess high (rich) and low (poor) production potentials of particular community forests.

We used those as generic criteria for the research group. Even so, it was observed that forest management in Hoa Binh and Son La provinces has been implemented by: (i) allocating (mainly production) forests to households, individuals and organizations; and (ii) allocating protected forests with restricted access to communities.

3.2.3. Cases

By relying on the given criteria and realistic conditions of the areas, the following research sites were selected for study.

Table 3.2: Selected research sites in Hoa Binh and Son La province

No.	Province	Forest user group	Village	Forest District	Forest Type	Stage	Forest Value	Donor
1	Son La	Sang	Muoi Noi	Thuan Chau	protection	initial	poor	yes
2		Hon	Chieng Bom	Thuan Chau	protection	initial	rich	yes
3		Chen	Phieng Ban	Bac Yen	protection	initial	poor	yes
4		Cao Da	Muong Khoa	Bac Yen	protection	initial	poor	yes
5		A Ma	Long Sap	Moc Chau	protection	initial	rich	yes
6		Coc Lac	Tu Nang	Yen Chau	protection	advanced	poor	no
7		Cang	Chieng Hac	Yen Chau	protection	advanced	rich	no
8		Ngoang	Chieng Khoi	Yen Chau	protection	advanced	poor	no
9		Na Pan	Chieng Dong	Yen Chau	protection	advanced	rich	no
10	Hoa Binh	Mu	Cuoi Ha	Kim Boi	protection	initial	poor	no
11		Vo Khang	Kim Tien	Kim Boi	protection	advanced	poor	no
12		Mo	Kim Son	Kim Boi	protection	advanced	poor	no
13		San	Hop Dong	Kim Boi	protection	initial	poor	yes
14		Bac Hung	QuyetChien	Tan Lac	protection	advanced	rich	no
15		Bo	Ngo Luong	Tan Lac	protection	advanced	rich	no

(Source: Field survey 2012, 2013 – 2014, Vietnam)

Since 2002, the District Authority has handed 15 forests over to local government units and legally recognized community forest user groups based on Provincial Decision Nos. 2396 and 3011 (LA-33, 34). During the field survey, we observed that the forests allocated to households and individuals are small production forests; protection forests (natural forests) are handed over to local governments and organizations for management and conservation purposes. On the basis of specifically allocated forest areas, local authorities entrust communities with forest management and establish community forest management boards, but do not provide a certificate of land use rights. Members of the forest user group committee are nominated by local forest users based on trust and good standing. For these reasons, we consider such the cases to be in the advanced developmental stage. In other cases, although they have officially received certificates of land use rights, forest user group committees have only just been established with the support of international donors; these are therefore considered to be in the initial stage of development.

The selected cases are located in six districts within Hoa Binh and Son La provinces. Six of the 15 case studies have been selected as part of a pilot project in community forestry

supported by international donors (KfW7) since 2010 (Anonymous-3 2006); the others have no external donor involvement. The criteria for rich and poor forests are based on the classification of forest status issued by the Ministry of Agriculture and Rural Development (MARD) (Huong 2009). Community forest management is run by the Community Forest User Group Committee, normally led by village patriarchs. Of the six cases in the pilot KfW7 project, forest protection and management activities run by local communities are evaluated and recognized as more successful when compared with others. Moreover, that these community forest committees have been in existence for some time is advantageous for the effective implementation of a community forestry program in the research areas the expectations for community forestry here is therefore be higher.

3.3. Identification of the most powerful actors

The most powerful actors in the community forest network are identified by using a quantitative framework for determining power; this framework, developed by the research group, allowed us to recognize the most powerful actors within the networks at the selected research sites. The power features of these powerful actors, who we believe have the potential of influence the processes, activities, and outcomes of the community forests, can be explored further through research framework.

3.3.1. A complete network survey

The processes of field research in Vietnam were carried out in two phases: the first one was from October 2012 to February 2013 in Son La province and the second one was from February to July 2014. To be facility for the field work process, at the initial stage, case studies were selected through official meetings with the Directors of Forestry Development Department and Forest Protection Department those are in charge of forest protection and development at provincial level. By this means, I was formally recommended to the forest protection units and the project management boards at district and local level who accompanied and connected me to the actors in the community forest network at local level during field survey period. By means of this approach, the trust and good rapport with local government units and local communities were founded.

To identify actors involved in the community forest network, the first interviews with selected user groups have been conducted to get information of organizational structure, forests and respective tasks of the committee. In addition, the questions on the partners from whom the users' committee has received information and supports have been raised. This allowed the research to get general notion of actors whom the users' committee was in collaboration with. At the same time, power elements were also examined in detail through quantitative measurements, called as "quantitative analysis" in this study.

The contacts and interviews with the referred actors by the first stakeholder and the stakeholder mentioned during interviews will be implemented. By doing successive referring and contacting (snowball effect) all actors more or less involved in community forests in the research sites were identified. This process of identifying stakeholder was supposed to be complete if new partners were no longer mentioned in the interviews. The list of the interviewed actors and used questionnaires of the fieldwork are attached in Appendix-3 and 4.

3.3.2. Power elements

As theoretically analyzed in Chapter 2, there are 3 power elements: dominant information, incentives and coercion which have been used to identify the group of the most powerful actors in a specific community forest network. During the complete network survey, the interviews- started by asking the interviewed actors- on the perception and reasoning the level of trustworthiness toward other partners in the network. By using a four-point ordinal scale, each stakeholder was asked to label the degree of trust toward the other actors based on the received information, with a score of "3" indicating complete trust and "0" indicating no trust at all.

Likewise, Yes (1) or No (0) were used to identify the stakeholder necessary in securing community forest activities in order to approve some activities or whether giving permissions or directives to implement community forest activities. This aims to measure coercive capacity of the actors in the community forest network by using qualitative information. Therefore, coercion measured by quantitative figures was just an indication of actors' coercive capacity in community forest network and mainly depends on the forest condition and prevailing regulatory framework. The reasons of actors for their coerciveness toward the others were explored through open-ended question.

To measure the contribution of incentives (finance, materials, and technical support) of the particular actors to their own programs was a difficult task. Hence, we chose a two-point scale as the measurement of incentives, where a value of "0" pointing out the particular actors who did not receive any incentives at all, and a value of "1" indicating incentives that were received from a specific stakeholder(s). Follow-up questions were asked about the types and extent of supports provided by specific stakeholder(s) to the partners in the network.

The accumulative results of power elements through a complete network survey were used to identify the group of powerful actors in each network of community forests.

3.3.3. Identifying the group of powerful actors

After accomplishing the complete network survey, we used the calculation of "individual concentration value – Xi" and "dominant degree – Di" (Schusser 2012) to identify the group of powerful actors in each network of community forests. The detailed procedures for the calculation of Xi and Di were followed:

First, the quantitative value of each power element (Dominant information, Incentive and Coercion) of each identified actors measured by the other partners in the community forestry network was entered and quantified by using formulas (See Appendix 5, item I). The calculation of "total accumulated value" of each power element was done for each actor separately, and the corresponding element has to be seen as independent.

Percentage of relative power element (Xi) was calculated based on total accumulated value and sorted from high to low (See Appendix 5, item II, 1). It is applied to each power element separately. Based on Xi calculated value, the 'individual concentration value' (hi) of each stakeholder under each power element was calculated (See Appendix 5, term II, 2). Hence, 'hi' is the ratio of power per actor and per power element. By doing so, the sum of 'individual concentration value' (hi) is always '1' and $0 \leq hi \leq 1$.

Relying on the determined value of hi, the 'Concentration Ratio – Cri' of each power element, which shows the distribution of power per actor (i.e., $C_{r3} = 0.6$ means that the first three actors hold 60 percent of the total available power per power element in the network), was calculated (See Appendix 5, item II, 3). The calculated result of Cri allows us to determine the 'Dominant Degree Value – Di' of each power element which is the

basis for identifying the group of powerful actors qualitatively. The formula for Di has been adopt and developed by Schusser then applied to the research group (Schusser 2012).

The first highest peak, which is considered as the boundary between the group of powerful actors and group of less powerful actors in the specific community forest network due to the specific power element, was considered as a criterion for evaluating the power of a stakeholder in the network. Therefore, the actors ranged up to the first highest peak fell under the group of powerful actors and coded as '2', and remaining actors are considered as less powerful actors and coded as '1' for qualitative evaluation.

Similarly applied to case studies, the groups of the most powerful actors were identified by evaluating the power elements (Dominant Information, Incentive and Coercion). The quantitative analysis of power elements under the specific actors is presented in Appendix 7.

3.3.4. Qualitative assessment and further data collection

Quantitative assessment phase allows the research to identify the group of the most powerful actors in the community forest network. In this process, the strength and weakness of actors which determines the power position in the network are equally assessed and mutually verified by the others. Moreover, the 'snowball effect' applied during the field survey has aided the research to avoid the personal preferences of people asked.

Like other methods, however, this method is not free from the weakness such as: i) identification of actors in the network is based on the subjective opinion of individual of specific actor group; ii) Hidden actors who were influencing the community forestry processes informally or indirectly, but were not mentioned during survey, were not identified in the quantitative power calculation; iii) At times the presence of the third party could affect the informant in term of expressing his/her thought over the other actors.

To limit the weaknesses mentioned above, the hidden actors were included in the following stage 'qualitative approach'. In this process, the quantitative power elements will be further checked by qualitative sources(interviews, documents, empirical observations). By doing cross-check, the power position of a specific actor per each power element was validated and enhanced due to both quantitative and qualitative approaches. Hence, by

means of triangle check, qualitative and quantitative information and knowledge of the researcher, a model of improved power network was developed as the basis for examining how powerful actors influence outcomes of community forestry in practice.

In the qualitative assessment stage, semi-structured questions were applied to obtain detailed information concerning to the interaction among actors in the network; sources of finance, human resource, as well as legal documents. Such documents were important to give the explanation the ways the actors build power over the others.

3.3.5. Data triangulation

Triangulation, known as cross-check applied to social science to point out that at least two methods are used in the study to check the results, aims to increase the credibility and validity of the results. It is important to do cross-check due to involvement of using methods to collect data such as direct field observations, interviews, documents, person, time and questionnaires in studying the same phenomenon (Denzin 2006; Hussein 2009). In quantitative and qualitative research process, data collection can be affected by subjective and objective causes from either socio-political context or researcher's competence or both, e.g. during field survey, at times the actors do not expose themselves or the interaction among the others over the use and management of community forest. So, data collected from primary as well as secondary sources were cross-checked through: direct field observations, legal documents, and written documents, formal or informal interviews. Thus, triangulation is for increasing not only wider and deep understanding of the study (Olsen 2004) but also the study credibility (Jick 1979; Morse 1991; O'Donoghue and Punch 2003; Hussein 2009).

3.4. Evaluation on the community forestry outcomes

Why evaluating the outcomes of community forestry? Maryudi et al. (2012) stressed that it is important to assess whether the community forestry program reached and produced its promised outcomes in terms of environmental and socioeconomic as well as political objectives as launched program. Community forestry, together with a comprehensive blend of environmental and socioeconomic objectives, was considered as a new approach to improve the sustainable forest management and livelihood for rural communities living

close proximity to the forest (Pagdee et al. 2006; Coleman 2009). Even if forms and models of community forestry with such large samples were done, evaluation on the success of community forestry comes up against difficulties due to the complicated nature of community forest management, the broad dimensions of success and conflicts among local and official criteria (Agrawal 2001; Pagdee et al. 2006; Pokharel and Larsen 2007). Scholars, for years, were increasingly aware that different forms and models of community forestry are yet to realize its potentials (Wollenberg et al. 2008) because the studies applied to a single case in specific conditions. For instance, although improvement of forest condition may have reached, fulfillment of local demands has insignificantly improved due to restrictive rules and regulations promulgated to be applied to forest protection.

3.4.1. Outcome definition

Generally, outcomes are understood as changes in knowledge, actions and/or conditions. In community forestry realm, particularly, evaluation on the outcomes of community forestry program needs a comprehensive dimension which ensures the social, economic and ecological indicators (Glasmeier and Farrigan 2005; Pagdee et al. 2006; Pokharel et al. 2007; Maryudi et al. 2012) as the idea of community forestry that relies on the close relation between forest resources and local people living in the vicinity. Hence, in this research, two important components of community forestry, people and forest, will be focused and assessed. For this purpose, by applying the logic of Krott and Stevanov (2008) in seeing the importance of limiting the focuses accordingly to the core policy objectives, there are three main objectives of community forestry widely accepted as indicated in various studies in the following: 1) reduction of community poverty; 2) improvement of forest conditions; 3) and empowerment to community (Glasmeier and Farrigan 2005; Pagdee et al. 2006; Charnley and Poe 2007; Pokharel and Larsen 2007).

As mentioned at the beginning, it is important to clarify outputs and outcomes for further study. Outputs in community forestry refer to the social, economic and technical means to produce certain results after implementing activity. While outcomes are considered as mid-term results those cannot be seen after the end of activity. Thus, outcomes in community forestry define as effects of outputs on the forests and people in terms of social, economic and ecological dimensions. The outputs and outcomes are influenced by internal and

relevant actors within a complex process. In this study, assessment of outcomes focuses on the relevance for the forest users, actors and sustainability, instead of comprehensive assessment.

3.4.2. Economic outcomes

As early mentioned, one of the substantial goals of the community forestry program is poverty alleviation to the local communities living in the vicinity and the forest end users whose their life depends on the forest resources (Wunder 2001; Gilmour et al. 2004; Glasmeier and Farrigan 2005). Since forests have been declined in both quality and quantity, this dependence becomes the more and more obvious in the rural areas in the forest vicinity. Moreover, the forestry activities conducted by relevant actors have contributed to improve the local life as well as their livelihood limitedly. Forest management in co-ordination with poverty alleviation and improvement of rural life is a wide gap that has been criticized in studies (Sunderlin and Huynh 2005; Sunderlin 2006; Maryudi 2011) for years. Wunder (2001) emphasized that “poverty to me thus retains a strong economic component”. Following this suggestion, this study continues focusing on the poverty alleviation (asset poverty and welfare poverty) in evaluation on economic outcomes of community forestry.

In fact, there have a great number of researches on the assessment of economic outcomes of community forestry (Wunder 2001; Acharya 2002; Sunderlin and Huynh 2005; Iversen et al. 2006; Sunderlin 2006). Many of which chiefly concentrate on the aspects such as financial profitability and economic efficiency, but not directly related to the evaluation on the roles of and how community forestry contribute to poverty alleviation (Glasmeier and Farrigan 2005; Pagdee et al. 2006). Attempts of governments based on changing State Forest Enterprises to State Forest Companies to improve the socioeconomic conditions for rural areas and forest dwellers have not reached expected results, at times and elsewhere it might be the causes leading to conflicts between local community and companies (Mayers and Vermeulen 2002; To et al. 2014). In this process, local community seems to be an outsider and passively participates in community forestry practices (Acharya 2002). This indicated that there is a close and strong linkage between poverty alleviation and equity in accessing to forest resources (Bardhan 1996).

Sunderlin (2006) pointed out in the research which emphasized the importance of poverty alleviation of community forestry program. So, poverty alleviation is one of the indispensable goals of each program. Poverty alleviation does not include of 'poverty elimination', 'poverty avoidance', and 'poverty mitigation' which have special meaning in term of forest resources. At one point, poverty elimination means the use of forest resources as a source to serve as a safety-net function, a gap fillers(FAO 2003), meeting the basic demands of forest users (Acharya 2002). In developing countries like Vietnam, expectations from community forestry are closely tied to meet basic demands and serve subsistent purposes those are directly extracted from the forests (Nam 2002; Glasmeier and Farrigan 2005). At the other point, it was also stated by FAO (2003) that poverty alleviation is the uses of saving, accumulation, asset building to increase permanent income.

On the basic of argument given above, poverty alleviation in this research will be evaluated relying on the enhancement of human well-being of the forest end users in terms of rural livelihoods. This approach points out that livelihoods are closely tied to forest resources (Gilmour et al. 2004; Ndoye and Tieguhong 2004). This evaluation provides an important basis to assess if community forestry has contributed to poverty alleviation to the forest end users. It is strongly argued in the articles that human well-being will be enhanced through community forestry in term of economic benefits to society in general and individual forest users (Gilmour et al. 2004; Glasmeier and Farrigan 2005; Sunderlin 2006). However, Gilmour et al. (2004) and Schusser (2012) argue that there exist many distributional issues of benefits flowing to local elites, and very poor people being made worse off in some cases. Moreover, external powerful influences those are not directly connected to community forestry might be interested in economic benefits, it is a disadvantage to the direct forest users (To et al. 2014). This issue is also emphasized by Bourguignon (2005) that economic benefits should be contributed to the poor people in the community. This research also points out that changing in poverty is a function of growth, distribution and change in distribution (Bourguignon 2005). This all proves that it might be inappropriate to evaluate the contributions of community forestry in the efforts of poverty alleviation. This study therefore approaches the evaluation of individual forest users.

In additional, economic outcomes of community forestry are defined as income, products and services gained from community forestry activities. It is strongly argued poverty is a multi-dimension, thus focusing on pure financial income might not evaluate the contributions of community forestry to poverty alleviation comprehensively (Mahanty et al. 2009). Economic outcomes therefore should be qualitatively analyzed and partly evaluated in natural units, partly in capital. The outcomes consist of forest products, including agro-forestry products; services produced from community forestry such as community house of culture, wooden bridge. These outcomes must benefit the forest end users. They are not taken into evaluation in case benefits are not to the direct forest end users.

3.4.3. Ecological outcomes

Defining the ecological health has attracted plenty scientific studies, with the concentration on developing a set of criteria, indicators, and even indexes as measurement for ecological sustainability (Hooper et al. 2000; Muñoz-Erickson et al. 2010). The various sets of indicators can challenge the process of monitoring and measurement (Dale and Beyeler 2001; Turnhout et al. 2007). This, due to complexity of indicators, might be not useful to policy making processes. Also due to the complexity of ecological indicators, the managers might not see the importance to measure potential interest within the forest ecosystem (Niemi and McDonal 2004), at times this diversity of indicators makes the selection of critical and relevant indicators more complicated (Noss 1990; Spangenberg 2002; Duelli and Obrist 2003). Many studies pointed out the selection of critical and relevant indicators for the goal of assessment (Failing and Gregory 2003). Also further argued if the fundamental objective is to maintain ecological services and resilience, then appropriate indicators might be closed to primary productivity, to ecosystem biodiversity, or to landscape, and so on.

As mentioned previously, community forestry implementation is to promote forest conservation in order to improve the forest conditions comprising condition for forest growth and biodiversity of the forest (Andrea and Nightingale 2002; Charnley and Poe 2007). So it is necessary to clarify what we mean with ecological outcomes, which are natural conditions of community forest before evaluating if community forestry improves forest condition or not. Natural conditions mentioned here refer to the natural requirements for the growth of forest and biodiversity. It is recommended that changes of forest

conditions can be observed by means of forest growth (Rutters et al. 1992). Similarly, biodiversity is an important indicator used in managing forests (Lindenmayer et al. 2000; Failing and Gregory 2003). However, both indicators depending on different actors accordingly to their respective social and political preferences are interpreted in different ways. Due to general meaning of biodiversity that makes difficulty to pin down a precise sense for policy-making (Sarkar and Margules 2002). Therefore, we in this evaluation are interested in different interpretations on forest growth and biodiversity of community forests. The evaluation of biodiversity is based on existing knowledge on biodiversity directly or indirectly measured by different actors, instead of direct evaluation and measurement of indicators. This means the knowledge of the powerful actors is the most important based on the reliance of the existing studies implemented by any actors within the respective selected community forests. Since community forestry is conducted in particular forests, the assessment in this research was done at stand level and population-species level. Composition, structure and function are considered as indices for the assessment procedure. Therefore, ecological outcomes in this research are assessed based on: 1) changes in vegetation coverage, and 2) changes in forest species composition, both in fauna and flora.

Tools for assessing the ecological dimension of forest comprise: aerial photos or remote sensing, physical habitat measures and resource inventories, observations and censuses (Noss 1990). This study uses and compiles those as a checklist to identify any ecological assessments being implemented, especially any power actors within the respective selected community forests (See Appendix 2).

3.4.4. Social outcomes

Community forestry itself shows the closed linkage between “forest communities” and surrounding forests, not only for their daily livelihood but also for cultural and even customs and religious lives. Hence, the meaningful involvement of local community is the basis to produce effective forest activities, from which local people can benefit more from forests as well as forestry activities. More importantly, direct forest users are expected participate in common decision-making process and directly implement the forest activities. To do so, genuine empowerment of direct forest user needs to be seen as the key for successful involvement in decision making procedures and benefit sharing

(Lachapelle et al. 2004). In fact, empowerment is one of the cores of community forestry objectives (Timsina 2002; Lachapelle et al. 2004; Charnley and Poe 2007).

Agarwal (2001) pointed out that participation and empowerment in a development intervention mean involvement of poor and excluded people in decision-making. The importance of empowerment has concluded by scholars in their studies (Agrawal and Ribot 1999; Agarwal 2001; Andrea and Nightingale 2002; Timsina 2002), but their understanding on empowerment diverges spectrally. Participation is a concept which has been misused by development professionals, government agencies by top-down approach. As a result, local people's participation is just a screen for the program designed by outsiders and to fulfill outsiders' objectives rather than communities' objectives (Timsina 2002). Even if rural people are participating in forestry activities, such does not necessarily mean that they are empowered. Agrawal (2001) stressed that the participation approach in forest management, in fact is modeled for disempowering some forest users. Timsina (2002) further emphasized empowerment of the poor must be understood in the context of existing socio-political power structure and argued that empowerment of the rural poor cannot be archived with imbalance accumulation of power of actors. The idea of forest devolution from central government to lower levels in a political-administrative and territorial hierarchy can be slated in the context of empowerment of forest users (Agrawal and Ribot 1999). Further argued by Timsina (2002), empowerment means the disadvantage groups gain some power and it is only be when it is framed outside the bureaucratic structures; The control by disadvantage individuals or groups such as women, poor and lower caste on the forest resources is minimal, and proposes restructuring power relationship among actors with more representation of the disadvantage groups in the committee. Moreover, the equity needs to be ensured among members in order to benefit to the disadvantage groups economically (Knox and Meinzen-Dick 2000).

Empowerment can be understood as giving subordinates to control over access to the resources (Conger and Kanungo 1988). Edmunds and Wollenberg (2013) in ***"Local Forest Management: The Impacts of Devolution Policies"*** noticed the crucial rationale for devolution policies such as community forestry is to hand over the poor with "*better access to forest resources and more self-determination in decisions about local*

resources". Looking at conflicts in forest and forest management, which are mostly originated from the access to the forest resources (Repetto and Gillis 1988; Shiva 1991; Wily 2001; Niemelä et al. 2005) in that less powered groups are limited access to the forest resources, thus empowerment of forest users should focus on the rights and competence to access the forest resources. Additionally, related to control and access to the forest resources, benefits from forests to the forest users also need to take into account (Lachapelle et al. 2004; Larson et al. 2007; Mahanty et al. 2009). Changes in access to the forest resources by decentralization of forest management at times profoundly affect the livelihood of the rural people (Nguyen 2006, 2008). For these reasons, to ensure a meaningful and genuine empowerment process, secure access and control must be examined as the principle key during the implementation of community forestry.

Depending on the socio-political context, access and control always come with prerequisites. It is argued by Larson et al (2007) that accessibility to the forests and the security of that access are affected by tenure rights. Further arguing he insists that negotiation for access, exploitation is indispensable between owners and the others. Apart from decision-making, people need access to resources needed to implement the decisions. As stated "*Access to land and forest is a key benefit and factor in the ability of community forestry to bring benefits to the poor",* therefore, obtaining new access is one of the key motivations for benefits of community forestry (McDermott and Schreckenberg 2009). By doing so, people can acquire the desired benefits.

In summary, on the basis of indicators and factors of access and control, social outcomes in our research are assessed on the empowerment of direct forest users and measured by the extend they can: 1) access to information on outcomes of forest and forestry; 2) access and participate in decision-making process; 3) access and tenure rights over the forest, forest land (See Appendix 2).

Table 3.3: Outcome evaluation of Community forestry

Outcome	Definition	Key facts
Social Outcome:	Empowerment of direct forest users	▪ Access to forest information ▪ Access to decision making ▪ Access to forest land and resources
Low	No empowerment	No access to information's, decision making and access to forest land the resources
Middle	Some empowerment	Limited access to information, decision making and forest land and resources
High	Full empowerment	Full access to information, decision making and forest land and resources
Economical Outcome:	Poverty alleviation of direct forest users	▪ Forest products ▪ Cash money ▪ Community development
Low	No improvements in livelihood	No access to forest products and no cash money
Middle	Slightly improved on level of subsistence	Access to community development which was financed through community forestry and or some small financial pay
High	Significantly improved livelihood	Access to community development which was financed through community forestry and or financial pay outs which significantly improve the live standard
Ecological outcome:	Improved forest condition	▪ Forest growth ▪ Biodiversity
Low	No improvements on forest growth and biodiversity or reduced forest resources	No management or uncontrolled management activities
Middle	A sustainable managed forest or increased ground forest surface	Resource assessments, inventories, management plans, controlled harvesting activities, protection activities, e.g., fire management activities
High	Improved or an stable natural ecosystem related biodiversity	acceptable proof, like a monitoring system or report

(Source: Schusser 2013)

Chapter 4: Model of Community Forestry

4.1. Concepts and Definitions

4.1.1. Concepts of community forestry

Many forms of community forestry exist at the global level; these are considered an effective mechanism for forest management, as they mobilize local people's involvement through democratic processes of program formulation and decision-making. The popularity of community forestry was boosted in the 1970s by global debates on preventing forest degradation and environmental crises while also alleviating poverty in one combined approach. The concept of community forestry emerged in response to two main things: first, the failure of the forest industries' development model to lead socio-economic development, and second, increasing rates of deforestation and forest land degradation in third world countries (Gilmour and Fisher 1991). With the release of the landmark Forestry for Local Community Development (FAO) in 1978, community forestry as a concept was imagined as *"any situation that intimately involves local people in forestry activities"* (FAO, 1978). In the late 70s, when the basic demands and problems of rural development in third world countries came into focus, community forestry was recognized as having two important roles: 1) to provide forest products and trees to people who no longer had access to them; and 2) to find ways of increasing the benefits of forest resources to local people, whose lives are closely connected to the forest and forest products (Gilmour and Fisher 1991).

As with the industrial forestry model, the concept of community forestry spread rapidly and gained rapid acceptance (Pulhin 1996), in part because policies promoting industrialization (e.g., in Indonesia) and privatization (e.g., in Nepal) did not directly benefit rural populations and as such were not effectively tackling the issue of rural poverty and forest degradation (Kirchhofer et al. 1986). The concept also fitted with political considerations of the time, matching political rhetoric on redistributive justice and poverty alleviation that was being advanced by development institutions like the World Bank. Furthermore, community

forestry supported the people- or community-centered ideologies that became fashionable in developing countries in the 1980s (Pulhin 1996).

Given the integration of community forestry into the forest policy of many developing countries (Gilmour and Fisher 1991), in tandem with rapid community growth of communities in both developing and developed countries, communities are attempting to gain greater control over their forest resources. To address this issue, national policies are being developed worldwide to re-engage communities in forest management decision-making (Roberts and Gautam 2003). One of the most compelling reasons for states to foster participatory management approaches is that they have been unable to effectively police their own forests (Klooster 2000). Today, this interpretation of community forestry is applied in nearly every country around the world (McCarthy 2006).

The concept of community forestry is founded on the belief in intimate synergies and the recognition of interdependency between local people, their forests, and their environment (Stevens 1997). The basic premise of community forestry is that by having a meaningful role in decision-making processes affecting surrounding forests, people can improve their socio-economic well-being and practice ecological sustainability (Shrestha 2006). Since its inception, the concept has been participatory and directed towards rural communities in general and the demands of the rural poor in particular (Arnold 1991). This participatory approach benefits the local community, makes use of indigenous knowledge, encourages voluntary compliance with community forestry program triggers innovation, and contributes to sustainable forestry with both socio-economic and ecological benefits (Kellert et al. 2000). Mobilizing the active participation of the locals with external support (rather than by strict management) is a distinguishing feature of community forestry (Arnold 1991). In this vein, Ostrom et al. note in their work "*The Drama of Commons"* that the democratic process of decision-making gives the local people a sense of ownership over the forest protection and utilization (Ostrom et al. 2002a).

Recent debates on community forestry have made apparent that the subject has significantly broadened its agenda. Actors in a community forestry network now focus on reforming national and international policy frameworks that constrain or enable community forestry's delivering of ideas, resources, and practical advice to foresters and local communities (Colchester and Laforge 2003).

4.1.2. Defining Community Forestry

Community forestry as a term represents different forms and practices in forestry; as such, it can be explained and interpreted by using terms like social forestry, joint forest management, community-based forest management, participatory forestry, etc. Definitions and terms for community forestry are plentiful in the current body of literature, and the forms it takes on the ground are similarly varied (Charnley and Poe 2007). Although these forms are dictated and approached in numerous ways, there is nothing wrong with diversity as a concept; however, a lack of consensus on what we mean by community forestry can cause significant confusion and misunderstanding regarding the basic elements of community forestry that is community, forests, and forestry (Shrestha 2006).

Over the years, scholars have reviewed and assessed community forestry for its concepts and definitions in both scientific and practical discourses (Shackleton et al. 2002; Wily 2003; Pagdee et al. 2006; McDermott and Schreckenberg 2009); it has even been related to broader discourses of neo-liberalism (McCarthy 2006). Community forestry was initially envisioned as "*any situation that intimately involves local people in forestry activity*" (FAO 1978). This definition, while mentioning involvement, fails to clarify: 1) how that intimate involvement can or should be organized; 2) who the ultimate decision-making authority is; 3) who local representatives are and how are they selected; and 4) who pays for and benefits from community forestry (Duinker et al. 1994).

Shrestha (2006) has emphasized that definitions of community forestry mainly focus on generating benefits through participation; he/she also argues that a focus on partnership may reinforce the dominant role of state agencies in community forestry. In a related vein, control of the political process by which local forest users are empowered to control the use and management of forests continues to be an issue; to this end Gilmour and Fisher (1991) shifted the focus of community forestry from participation- to livelihood based forestry, an integral part of the rural farming system. For them, community forestry is "… the control and management of forest resources by the rural people who use them especially for domestic purpose and as an integral part of their farming system" (Gilmour and Fisher 1991).

The above review of the definition of community forestry can be summarized as follows: community forestry involves both some element of community participation in forest management and the secure provision of forest products for rural people. Three key attributes are shared by most community forestry: 1) access to the land and its resources; 2) meaningful participation in the decision-making process surrounding local forests; 3) the preservation and maintenance of a way of life (Brendler and Carey 1998). Further elaborating on community forestry, Brendler and Carey (1998) coined the phrase "*community forestry as another brand of forestry*" which is refers to and benefits local communities through participatory forest management (ibid). In 1996, subsequent community forestry was once again highlighted as a "partnership" with the government (Hobley 1996), i.e., an entity with explicit mandate and legal decision-making authority to manage the allocated forest for the benefits of the community (Krogman and Beckley 2002).

Box 4. 1: Three key attributes of community forestry

- Local communities have access to the land and its resources: Community forestry is deeply concerned with how communities benefit from forest resources, including timber and non-timber products. Jobs and other opportunities for added-value processing are distributed. As such, it seeks to ensure that locals have access to a portion of the benefits from nearby forests.

- Local communities participate in the decision-making process: the fact that neighboring communities suffer most from forest degradation, community forestry aims to provide local people the meaningful role in making the decisions regarding the forests.

- Local communities protect and restore the forests: Community forestry programs have taken place in areas where the balance between the subsistence culture and the surrounding forests has been upset by resource depletion and the resulting social decline; in such places, conservation and restoration are crucial goals.

Source: Brendler and Carey (1996)

There are two indispensable components in every community forestry initiative: the community and the forest. Community forestry is thus the intersection of "community" and

"forestry related activities," where communities become responsible for themselves (Nguyen 2006). Advocates of community forestry insist that the stability of communities, economies, and ecosystems is tightly linked and mutually reinforcing (McCarthy 2006); McDermott and Schrekenberg elaborate this point when they note that community forestry refers to local exercises to gain power over or influence decisions regarding forest management, including the rules of access and the disposition of forest products (2009:8). This definition makes clear that a sharing and shift of power from state to local communities is necessary and sufficient to bring out community forestry objectives on the ground.

Relying on the aforementioned definitions and terms, Charnley and Poe (2007:303) underline three characteristics of community forestry: first, responsibility and authority for forest management is officially devolved to local communities; second, social and economic benefits from the forest to local communities are provided; and third, ecologically sustainable forest use becomes a main goal, with forest communities taking some responsibility for maintaining and restoring forest health. However, in practice, three main attributes characterize a community forest and set it apart from others: who makes the relevant decisions, who benefits from the forest, and how broad-ranging the management objectives are (Duinker et al. 1994).

Ultimately, the definition provided above is of what community forestry *should* be, rather than what it actually *is*. There exists a need to define and understand community forestry within specific contexts and with the realization that there are gaps between actual and ideal community forestry practices (Shrestha 2006). Thus, community forestry is defined in this study as "***forestry practices which directly involve local forest users in common decision-making processes and implementation of forestry activities***". We argue that meaningful community forestry practices require the decision-making autonomy of direct forest users regarding setting objectives, obtaining local control in forest management/utilization, and reaping the benefits of the forest.

4.2. Goals of community forestry

Krott (2005) in "*Forest Policy Analysis"* has listed elements of the rationale program: i) Specific issues needed to be dealt with; ii) Goals which are the objects of the program; iii) Intended impact and its realization of the program; and iv) Information about the institutions concerned and implementation stage. He also underlined that these specific issues are the central points of forestry programs (ibid).

- *Issues of community forestry*

The logical point of departure for community forestry programs can be found in several key issues, including livelihood of the local community, empowerment, and forest protection. These issues are adequately defined in the current body of literature (Hobley 2007; McDermott and Schreckenberg 2009) and broadly used to define both community forestry and the problems and goals of designing such programs (Lindayati 2000).

- *Goals of community forestry*

Policy goals for community forestry have been broadened from forest management efficiency and sustainability to include equality, social justice, and a decentralized decision-making authority. Policy assumptions evolve accordingly, from viewing community forestry practices as a threat to an alternative solution to forest sustainability. In regards to policy, community forestry aims to preserve a forest ecosystem by sustaining its timber production and biodiversity while also including a new dimension of distributional benefits to the local community (Lindayati 2000). Additionally, community forestry programs have been diversified to produce several forms of land use and legal arrangements (ibid). Two types of forest policy strategies mentioned by Poffenberger (2006) are emerging in Southeast Asia and more broadly support community involvement in forest management. The first is the formulation and implementation of laws and policies that articulate community rights/responsibilities on lands previously claimed by the state and managed by its agencies or private sector leases; the second involves policies which support the devolution and decentralization of power to lower government units (i.e., district and commune levels) in order to ensure the authority of local institutions over

natural resource management, protection, and production (Poffenberger 2006:63). Both strategies refer to a "participatory approach" to forest management.

Community forestry policy and practice initially focused on the protection and rehabilitation of degraded forests, as well as the establishment of new forest resources which Gilmour et al. (2004:1). strongly emphasized "*this is still a case for many countries in Asian regions where community forestry (under its various guises) has come onto the national agenda during the past decade"*. In light of the impact of deforestation and forest degradation (Arnold 1991), Pulhin (1996) lists three major functions of forestry in rural development in addition to its industrial role. These are as follows:

- The social equity function: to provide other forest products to rural people who no longer have access to them (Gilmour and Fisher 1991).
- The poverty alleviation function: to find ways of increasing forest benefits to local people whose livelihoods are closely tied to the forests (Gilmour and Fisher 1991).
- The resource sustainability function: to address the perceived fuel wood crisis and the increasing rate of deforestation and land degradation in developing countries (Mayers and Vermeulen 2002).

Although the central objective of community forestry is to provide socio-economic benefits to local communities, goals of forest protection are much more important in developing countries, where locals are seen as the main agents of forest degradation and deforestation (McDermott and Schreckenberg 2009). Likewise, Charnley and Poe state that the central goal of community forestry is the sustainable utilization of forests (2007:303). There is, however, a great potential for community forestry to scale up approaches to poverty alleviation; there is thus a significant possibility for community forestry to contribute to the Millennium Development Goal of halving extreme poverty (Nurse and Malla 2005).

4.3. Actors in community forestry

On the basis of the diversity of functions and values that forests provide, community forestry is characterized by many actors. Beyond the communities themselves, other

groups, organizations at different levels (regional, provincial, national and international) also have impacts on local people's access to the forests and forest products (Peluso 1994). Conceptually, the four main types of actors involved in community forestry are the state, the civil society, the private sector and the donors (Dahal 1996; Hobley 2004). All four strands are critical for sustaining community forest management. It was argued that "*the state has a strong, dominant role in forest management all over the region, permitting, or not, various forms of use to different groups, at different times, and sometimes without due consideration of the impacts on other groups*" (Barrow et al. 2002:24). Structural adjustment and retrenchment, however, are changing this, as states are no longer able to properly manage forests, but rather must enlist the support of both the public and private sectors (Barrow, Clarke, Grundy, Jones, & Tessema, 2002:36).

We define 'stakeholder' as "***an individualistic or collective organizations that have interests in the community forestry and also have the potential to influence the community forestry process. They form the network in community forestry processes***". The term 'stakeholder' refers to resource users and service providers (including educators and researchers) who shape policy and undertake/facilitate community forestry processes.

As Krott (2005:265) has discussed, forest policy is only possible with the cooperation of all actors and the implementation of various regulatory instruments. Politicians and administrative bodies as well as associations and individual citizens are directly involved in the formulation of forest management goals as such, forest policy mandates take on a prominent role in forest administration, which in turn focuses on the realization of public goals for forest policy, both through managing state forests and enforcing forestry programs (ibid). Such enforcement is in practice formulated by politicians, special administrations, and relevant associations. Forest users (and in particular primarily forest owners) are targeted by regulatory functions, including environmentalists and wood-processing industries. A whole range of other direct and indirect users play a role, as do those people/organizations whose actions influence forests. Both formal state and non-governmental groups of actors have the potential to influence community forestry processes. The classification of these actors is as conceptualized by Schusser et al. (2015); their roles in community forestry are described in the following table.

Table 4.1: Actors and their role in community forestry

Actor	Code	Definition	Role	Example
POLITICAL				
Politician	State	Actors who is selected by the people to fulfill a public mandate and who can legitimize binding decisions	- Development of policies - Provision of information and capital - Technical and advisory services	Government and Ministers; Representatives of political party (District People's Committee and Communal People's Committee);
Public Administrations	PA	Public actors that make decisions concerning specific problems on the basis of general legal standard, resolving these problems by implementing special measures (Krott 2005)	- Coordination and networking	Natural conservation authority, Police, Military
Forest Administration	FA	Public administrations focusing on forest tasks	- Guide and implement FLA. - Support community in building local regulations on forest management. - Organize the forest protection network in the community.	- Department of Agriculture and Rural Development (DARD); - District Forest Protection Department; - Management board of Natural Reserved Areas

Traditional Leader	TA	Actor who is legitimized to fulfill a public mandate and who can legitimize binding decisions for a community	- Representing the culture - Leading the people - Advising people - Dispute solving - Traditional courts	Traditional authority such as patriarchs, village leaders
International donor organizations	I_Dnr	Actor that offers funds for solving problems	- Provision of information - Source of funding - Support for legal and technical reforms - Capacity building - Research and education	KfW (German Development Bank); SIDA (Swedish International Development Cooperation agency)
Association	Asc	Actor that articulates interests of the group he represents and attempts to implement them by lobbying politicians and public administrations (Krott 2005)	- Service provider - Negotiation with actors - Public relations, advisory and extension services - Capacity building	Association of foresters
Support associations	NGOs	Actor that can be characterized as an association but also offers funds for solving problems	- Provision of information - Actors capacity building - Legal and political advocacy for communities - Source of funding - Advocacy for institutional reforms - Research and education	All kinds of NGOs

ECONOMIC				
Forest user group representative	FUGR	Actor that articulates the interests of local forest users and attempts to implement them	- Participation and labour providers - Holders of 'local knowledge' Land and forest management Community development	Community forest committee; Board of village forest management
Forest entrepreneur	Fb	Actor using forests for production or consumption of products and services	- Markets for timber products - Provision of information - Employment	Forest companies
Consultant	Con	Actor providing information, capacity building, funds and management for another actor based on a contract	- Publication and documentations - Capacity building	Consultants
SOCIETAL				
Research institutions	Rc	Actors providing science-based knowledge	- Analysis of programs - Provision of information of programs through research - Capacity building; production of trained manpower - Transfer knowledge, technique;	Forest Inventory and Planning Institute; Forestry Science Institute of Vietnam; Forestry University of Vietnam
Media	Med	Actor distributing and generating information	- Public attention and awareness	Radio, TV, Newspaper

4.3.1. Political actors

State institutions are involved in forestry development and policy formation, with government actors comprising institutions at different levels within the state. The state is the highest authority and as such presides over society and the business sector; it is responsible for making binding decisions in order to define and implement common welfare (Grimble and Wellard 1997). Migdal (1988:19) defines the state as "an organization with the ability or authority to make binding rules for society and ability to enforce its rules". This definition is clearly linked to the concept of capabilities which define state strength; capabilities are here defined as "the ability of state leaders to use the agencies of the State to get people in the society to do what they want them to do" (Migdal 1988, 1994). For Migdal, four main capacities make up state strength: i) the capacity to penetrate society; ii) the capacity to regulate social relationships; iii) the capacity to extract resources; and iv) the capacity to appropriate or use resources in determined ways. States with these four capacities are strong states; others are weak states.

Drawing on Max Weber, many consider the characteristics of the modern state to include territorial integrity and rule-making regarding individual behavior and claims of legitimacy in coercive exercise (Migdal 1988, 1994; Barber 1990). The state is comprised of many institutions, such as the government, civil service, judiciary, parliament, and local government (Smith 1993). 'State' in this research refers to formal government agencies which deal with forest policy tasks and manage state forests and forested lands in the form of community forestry.

a. Politicians

Political parties are organizations which have evolved on a voluntary basis by independently accumulating votes in competition with other parties and whose goal it is to have their representatives elected to political office (Krott 2005:111). Their interests in community forestry can be seen through their practice of lobbying their positions in policy-making: often they trade off forestry issues in order to get votes, recruit political elites, and represent people's interests in community forestry programs (Krott 2005:114-115).

Politicians (e.g., government officials, ministers, parliament members, representatives of political parties at all levels) are those who are involved in influencing public policy and

decision making; this includes people who hold decision-making positions in government. Krott (2005:122) stresses that although the constitution gives the parliament the right of legislation, only 'politicians' can legitimize political decisions (e.g., the ministers have decision-making abilities in their own departments).

Most developing countries have been implementing decentralization in order to effectively coordinate and manage local development. Local governments and district/communal people's committees are thus considered decentralized agents of the central government (that is, in a smaller area as compared to the national one) by locally elected politicians. They provide a legislative platform from which they can strengthen decentralized forest governance in the country, allow local self-determination, and facilitate local knowledge when dealing with local problems and issues.

Political parties are the key players and decision makers in local government entities. According to assigned authorities and responsibilities (LA – 03), the politicians with decision-making powers in the realm of (community) forestry are found in the Ministry of Agriculture and Rural Development (DARD) at the state level and the Provincial, District and Communal People's Committees at lower levels.

b. Forest Administration (FA)

State forest administrations remain a powerful governmental stakeholder in community forestry. The main forest administration bodies are the Central Ministry of Forestry and whatever administrations exist at the regional and local levels. According to Krott (2005:125), "*Forest Administration takes on the executive tasks in the state, i.e. it implements political programs in the form of concrete measures*". In practice, these administrations develop a large number of diverse institutions which span everything in the forest sector from special forestry offices to general forest administration (Krott 2005). He distinguished between two dimensions of Forest Administration machinery: 'tasks' and 'structure'. The former, in the form of legal stipulations, defines the framework in which forest administration takes action and is oriented. Advisory and extension services as well as the country's overall forest management are the discrete tasks of the Forest Administration. To conduct these tasks, the Forest Administration has a built-up, distinct structure with expert staff and procedures across local, district, provincial, and state

offices. Depending on the general public administration, forestry administration follows the theory of bureaucracy but is supplemented by several elements of private business management (Krott 2005).

c. Traditional authority

The traditional authority is an individual elected by the local people through a village meeting. Usually an elite among the locals, this person is fully trusted by the others in the community. Traditional authority might be traditional leader of a traditional area, traditional leader at village level, or village patriarch.

d. International donor organization (Dnr)

Donor agencies are a heterogeneous group to other players. In many countries, external assistance is still a major source of financial support for state and civil activities, meaning that the objectives and political agendas of donor agencies play a fundamental role in shaping the evolution of the sector. Hobley thus (2004:34) defines donors as "*international agencies of government or multilateral organizations, who, by reason of their nature or funding, are able to influence government policy"*. Donors are distinguished as follows:

- International financial institutions
- Bilateral donors

According to Hobley (2004), both sets of donor institutions have sustainable development goals linked to poverty alleviation, as established through the Millennium Development Goals. The approaches and tools they use to affect change in the forestry sector are diverse and vary from the use of conditionality to a more engaged, supportive role in building capacity and understanding changes within the public sector and civil society. Local funds or institutions are also considered effective bodies due to advantages such as: i) the reduced time and cost they require to access resources; ii) their creation of demand-driven and effective systems of absorption for external funds; iii) their constant support and anti-poverty engagement with local processes that more distant agencies cannot achieve; iv) their flexibility and support for different methods of reducing poverty; and v) their

avoidance of the tendency to swamp or overfund promising local initiatives, as is often the case with donor agencies (Satterthwaite 2002).

e. Associations (Asc)

Associations represent the direct interests of the forest while also helping forest users to establish policies. Krott (2005:69) defines associations as "*organizations which articulate the interests of the groups they represent, and attempt to implement them by lobbying politicians*". Generally speaking, associations are geared towards three major tasks: i) representing the interests of the forest sector, ii) representing the employer's interests, and iii) representing the employee's interests (Krott, 2005:70). Although associations do not represent the entire range of interests regarding forest management, they exert significant influence over forest management policy by lobbying, initiating lawsuits, and other means (Kearney and Bradley 1998). Krott (2005:77) notes that the structure of an association is determined by the formal and informal rules and regulations that adhere the association to a democratic structure; in turn, this structure enables members to influence the association's activities.

f. Support associations (NGOs)

Although support associations have become recognized as national and international actors, it has not been clearly defined yet what the term 'NGO' encompasses. Non-governmental organizations (NGOs) are defined as "*formal (professionalized) independent societal organizations, whose primary aim is to promote common goals at the national or international level*" (Martens 2002:12). The term 'NGO' refers to non-state, independent, and formal not-for-profit organizations which deliver services in the field of forestry. In many cases, NGOs play a crucial role as project facilitators and in capacity building, where they help to manage conflict within/between communities and bridge divergent views between the local people and governmental agencies. In some countries, NGOs are seen as power brokers between governments and communities and are such used to implement projects (Shackleton et al. 2002). Along with government actors, they are significant in

shaping community forestry policies. Based on their level of operation, NGOs can be either local, national, or international.

- *Local NGOs* function at district and commune levels. Being local, they are small and have well-defined objectives. The role of local NGOs is to help the target community make changes for itself (Lainie Thomas 2005).

- *National NGOs* have the capacity to operate at the national level. They will lobby politicians or execute tasks on behalf of their government.

- *International NGOs* are lobby groups for countries or international organizations that exercise their activities in more than one country. Their policy mandates and budgetary allocations are defined by foreigners, and they may act as project implementing agencies, funding agencies, or both. In most countries, international NGOs together with national and local NGOs have been instrumental in putting community forestry into practice. The main interests of these NGOs is the sustainable management of forests, alleviation of poverty, and research.

4.3.2. Economic actors

a. Forest user group representatives (FUGR)

As the name implies, forest users are the immediate users of a forest; in community forestry, the term may refer to individual direct forest users with partial legal rights to forest access and the decision-making process. They are a heterogeneous group with varied interests in forests, including fuel wood, non-wood products, hunters, encroachers, and livestock herders. When a group of direct forest users has mutually recognized rights to use a particular forest, they become known as a forest user group (FUG). Such groups can be either formal or informal organizations that have been authorized to manage local forests in a sustainable manner (e.g., traditional authorities). Conservation, management, and forest utilization are the major concerns of forest user groups. A users' committee is the executive body of the user group; this committee coordinates and negotiates with the government/other relevant actors and over sees forestry and organizational duties.

b. Forest entrepreneurs (Fb)

Motivated by profit, the private sector plays a crucial role in forestry businesses. Private operators in forestry have the capacity to greatly assist forest communities by providing technical expertise, capital, and market access. Big concessionaires, timber industries, furniture industries, saw mills, contractors/loggers, and small scale fellers are examples of private sector actors in forestry. It is the role of the state's Forest Administration to facilitate linkages between groups of forest users and timber operators. However, these powerful actors in most cases tend to ignore local regulations and controls, undermining the authority of community institutions and appropriating resources at the expense of local community members (Shackleton et al. 2002).

c. Consultants (Con)

Consultants are individuals or private organizations in forestry that provide forest advisory services; as such, they can influence forest policy with their high competency in and knowledge of the subject. By providing information on improved methods with which to utilize and protect the forest, their clients are able to make improvements without additional political pressure. Krott (2005:153) defines it as follows: "*consulting provides information to support the client in resolving his own problems"*. Most consulting refers to research, technical procedures (e.g., equipment use), capacity development (training), marketing, and financial promotion (entrepreneurship development). A consultant's interests in forestry are thus service delivery, employment, and profit making.

4.3.3. Societal actors

a. Research institutions (RI)

Research institutions help generate knowledge in community forestry; as such, their role has primarily been to train professionals in community forestry practices, provide technical support to actors, carry out field-based research on different modalities of participatory forestry, and act as advocates for the development of community forestry. Forestry research institutions are established by governments at different levels with the goal of sustainably conserving forest ecosystems and contributing to local community development via things like national parks or protected areas. Their interests mostly focus

on natural conservation and assisting local communities in socio-economic development (Nelson 1987).

Along with research institutions, forestry related subjects can be studied and researched to degree level at universities, where education and research is the primary focus. Through formal forestry education, forestry professionals could acquire the basic competencies (knowledge, attitudes, values, and skills) required for forest management (Rebugio and Camacho 2005). Universities have the potential to play three roles in promoting community forest management: advocacy, information, knowledge generation; capacity building; and human source development.

b. Media (Med)

'Media' refers to the various means of communication required to disseminate community forestry information, including television, radio, and newspapers. With public attention and awareness of forests, the media is simultaneously regarded as representing the common thinking and existing as a product of either state-owned or private enterprises. The media as a product must be oriented towards markets by fulfilling the demands of recipients and advertising to customers (Kleinschmit and Krott 2008).

Chapter 5: Powerful Actors and Power Networks in Community Forestry

5.1. Community forestry in the context of Vietnam

Community forest management is not a new topic in Vietnam. Since the 1950s, studies have examined the existence of local traditional forest management models in various regions (Tran and Nguyen 2000; Dang 2001; Phuong 2008). There is a range of contributing factors behind the implementation of and changes in community forestry and forest policy. The development of forest resource management practices influencing community forestry is best tracked as follows below.

Table 5.1: The development process of community forestry policies in Vietnam

Time frame	Explanation of the policy
By 1954	The existence of traditional community forests is recognized. The management of these forests is based on local regulations and traditional customs.
1954 - 1975	Regardless of community forests but respect the communities' management of forests according to tradition. Policies of land reform and cooperation are implemented, and state forest enterprises and collective forestry is developed (e.g., the Agriculture and Forestry Cooperative). Although the state disregards forestry at the household and community levels, they accept and respect highland communities' managing of forests according to local customs.
1976 - 1985	The focus shifts towards central management and intensive planning of state and collective forestry, while the amount of forests under the management of communities is decreased. After the liberation of South Vietnam, the government consolidates forestry into two economic components: state-owned and collective (cooperative) enterprises. State-owned and collective forestry develops at a large scale via various concentrated planning mechanisms. Community and household forestry are not encouraged to develop. Many forested areas are recognized and managed by local communities (many of which are ethnic minorities) in the highland

	regions, but their self-governance goes ignored in the face of state inattention. Decision No.184 by the Cabinet Council (1982) and Instruction No. 29 by the Secretariat (1983) move away from allocating forested land to state-owned and cooperative enterprises and start focusing on forest agreements with households.
1986 - 1992	For the first time, the State refers to communes and villages as the legal owners of traditional community forests. In 1988 and 1991, with the first enactment of the Land Law and Law of Forest Protection and Development, forest land is allocated to organizations, individuals, and households. Community forestry as a concept is thus recognized. On January 17th 1992, the chairman of the cabinet council (now the prime minister) passes Decision No. 17/HĐBT to implement the Forest Protection and Development Law which confirms that communes and villages are the legal owners of those forests existing when the law comes into effect.
1993 - 2002	This period is marked by an enhanced process of decentralization in forest management and increased interest in forestry socialization; however the policy of community forestry is not particularly detailed or clear. Various models of community forest management are (on some occasions, spontaneously) established in many regions but only at the level of a pilot project. Many international programs and projects take interest in community forestry but the field as a whole has not completely coalesced. Several important laws are passed, including the (amended) Land Law in 1993 and Decrees No. 02/CP and 163/CP on "Forestry Land Allocation," neither of which defined community forestry clearly. The Civil Law passed in 1995 does not recognize communities as economic entities with legal standing; however, some state documents are applied to community forestry during this period, including: Decree No. 01/CP (1995) on "Forest Land Allocation"; Decree No. 29/CP (1998) on "Regulations of democratic implementation at communal level"; Decision No. 245/1998/QĐ-TTg on "executing the state responsibility on forest and forestry land"; Circular No. 56/TT (1999), a "guide to design the regulation of community forest protection and development" by the Ministry of Agriculture and Rural Development (MARD); Decision No. 08/2001/QĐ-TTg on "regulations on managing three

	types of forest"; and Decision No. 178/2001/QĐ-TTg on "rights and duties while participating in forest management."
2003 - present	This period is marked by the establishment of a fundamental legal framework for community forestry. According to the amended Land Law (2003), a local commune is either allocated land or recognized as a land user under the State with all the agricultural-land use rights that entails. The Forest Protection and Development Law (2004) specifically stipulate the allocation of forests to communes and villages, as well as the rights and duties of those communes. A civil law amended in July 2005 recognizes the concept of "common property" in communities, where communes and villages have the right to own customary assets contributed, co-managed, and used by community forest members according to agreements on community interests.

Source*: (Ngai 2009; Tình and Nghị 2012)*

The concentration of state rights through forest nationalization and other supporting forestry legislation led to massive forest degradation from the 1970s to 1990s (Sikor 1998; To et al. 2014). State forestry practices in this period attached special importance to forest exploitation and disregarded the protection of forest resources; predictably, this led to the exhaustion of those resources (Sikor 1998; Meyfroidt and Lambin 2008a). Sikor (2011) emphasized that changes in the policies and mechanisms of the forestry sector have provided the dynamics for the development of the highland regions. With the approval of the Land Law (1993)[5], the legal position of local communities has been improved, especially in terms of land use rights and ownership. The Forest Protection and Development Law (1991) stipulated rules for the management of three types of forests (special use forests, protection forests, and production forests)[6]. These legal regulations handed over most of the protection and special use forest areas to state organizations; state forest enterprises (now known as state forest companies) managed most of the natural forest areas rich production forests. The remaining poor forests and bare lands were allocated to households and communities (To and Tran 2014).

[5] Approved on July 14th, 1993 by the National Assembly. To date, it has been amended a few times
[6] Approved on August 12th, 1991 by the National Assembly. To date, it has been amended a few times

Although households become more and more important in forest establishment and poverty alleviation in the highlands, state forestry -represented by management boards and state forest companies- still plays a decisive role in forest practices. However, clear weaknesses are evident in terms of state's forest management and land use (Bộ NN&PTNT and UNREDD 2010; To 2012).

Community forestry practices in recent years have shifted to practices of forest land allocation to communities. These practices are described below.

Box 5. 1: Main activities of forest land allocation

1) Land-use planning based on community;
2) Forest allocation and land allocation to community;
3) Schedule community forest protection and development;
4) Setting up regulations for community forest protection;
5) Implementing the forest protection and development plan;
6) Exploitation procedures of forest products from community forests;
7) Logging procedures from community forests for housing purpose;
8) Building manpower for community in community forest management;
9) Establishing funds for forest protection and development;
10) Monitoring and evaluating the community forest management process;

Source: (Tình and Nghị 2012)

The 'Đổi mới' policy of 1986 was a turning point for the institutional devolution from state-centered control to participatory management for local components (households, communes, groups of household). Decree Nos. 02 (LA – 35) and 163 (LA – 40) are the first definitive legal documents regarding forest land allocation to individuals, households, and organizations for their protection, management, and development (Ngai 2009; Sang 2009). As Phuong (2008) points out, the transition from state-centered to decentralized management via mechanisms of forestry socialization is the legal basis for implementing community forestry in Vietnam.

Box 5. 2: Foundations for community forestry

To deal with the rapid declination of forest cover, Vietnamese Government has initially tested reform of tenure rights over the resources on the forestland. Land Law (1993) and Forest Protection and Development Law (1991) are the two legally important basis for community forestry implementation. In which, the Land Law authorizes for a long-term forest allocation (up to 50 years or longer) and 'SổĐỏ' (Red Book)[7] (See Appendix 1, LA – 44, 45). 'So Do' owner has rights to dispose, assign, inherit, mortgage, and rent allocated forest. These two Acts and related decrees have facilitated the forest management through forestland allocation and forest protection agreement.

Source: (IUCN and RECOFTC 2011)

Although Vietnam has built the legal and policy framework necessary for community forestry development, there are many difficulties and challenges associated with community forestry practices. These can be summarized as follows.

Box 5. 3: Challenges for the development of community forestry

- Community forestry is implemented in undeveloped regions, remote areas with high poverty rate, low literacy level, low infrastructures, and lack of funds, which are the barriers for the development of community forestry.
- Income from forests is low, while forests allocated to local community are the poor forests. This reduces the interests and attractiveness of local people to participate in community forest practices.
- The legal scopes of community forestry have not been fully completed to promote available potentials of local communities as well as external supports to communities.
- Weak co-ordination among actors in community forestry practices

Source: *(Tran and Nguyen 2000; Tình and Nghị 2012)*

In spite of the difficulties in community forestry implementation, forest land allocation in Vietnam has achieved some results, summarized in the table below.

[7] 'Sổ Đỏ' is an abbreviation of "Land-use right certificate" which is granted to the rural areas and stipulated in Decree No. 64-CP and Circular No. 346/1998/TT-TCDC

Table 5.2: The forest land allocation's achievement in Vietnam[8]

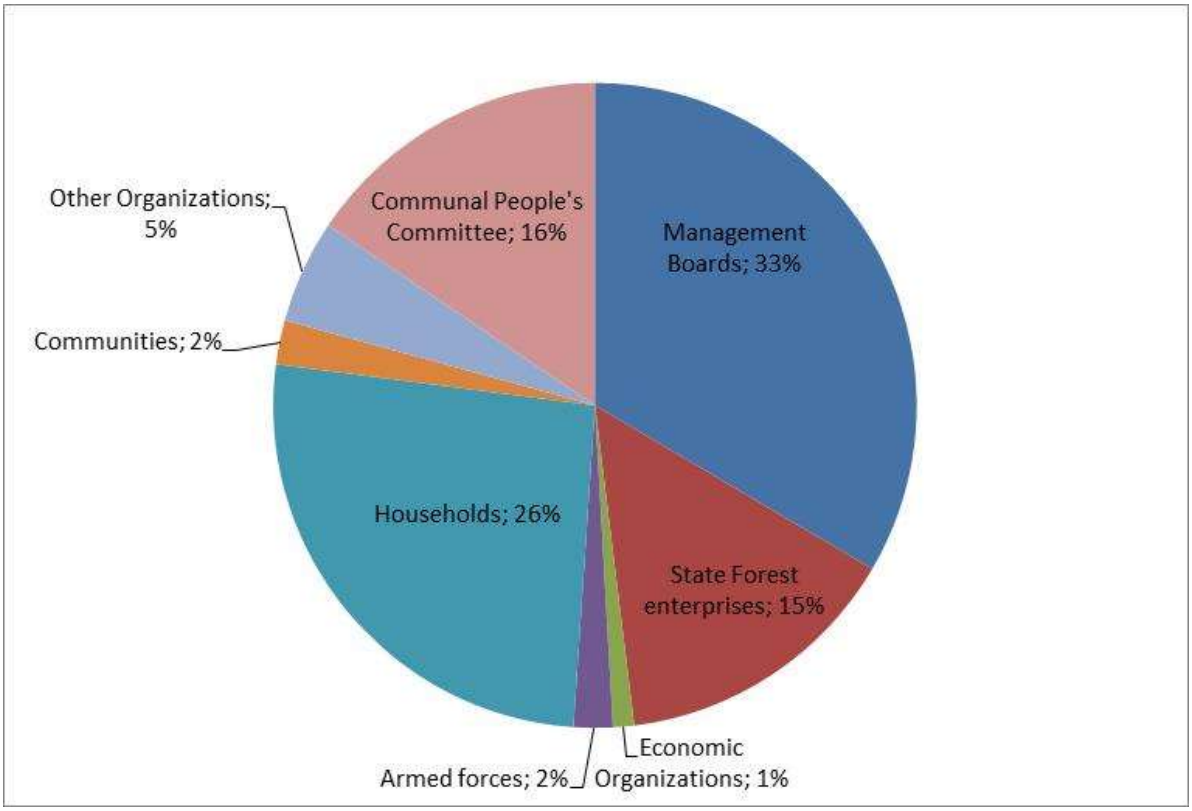
Regions	Allocated area (ha)	Allocated entities (ha)				
		Economic organizations	Forest management board	Military	Household, individual	Others
Country	**9,999,892**	**2,291,904**	**3.981.858**	**228,512**	**2,806,357**	**620,531**
Northwest	1,330,721	33,643	127,659	10,219	740,688	418,512
Northeast	2,211,304	298,435	593,196	12,833	1,175,425	131,415
Hong river delta	84,844	4,012	62,194	2,272	10,425	5,941
North central	2,292,997	431,262	1,126,918	46,596	658,096	30,127
South central	824,271	238,078	406,567	4,209	97,910	77,506
Tay Nguyen	2,158,582	1,018,777	950,417	126,561	38,996	23,832
Southeast	801,296	208,331	571,482	12,933	5,819	2,730
Mekong delta	295,876	59,367	143,424	12,889	78,997	1,199

Source: (Cục Kiểm Lâm 2009)

[8]Cục Kiểm Lâm (Forest Protection Department – FPD):
http://www.kiemlam.org.vn/Download.aspx/8EB785CE5B8F4617B6D62BFA79C6A0E2/1/BC_GD_GR_NR_3-20091.doc

As seen in the table given above, forest land allocations have been strongly implemented in the northern, middle, and Tay Nguyen regions of Vietnam where one-third of the country's total forested area is located. Economic organizations, forest management boards, and households hold the largest allocations of forest area. Although the Communal People's Committee is not recognized as a forest-owning entity by the Forest Protection and Development Law, it still manages approximately 2.1 Million hectares which have not yet been allocated to forest owners. The distribution of forest area by forest owner is given in Figure 5.1.

Figure 5.1: Forested area managed by different forest owners



Source: (MARD 2012)[9]

[9]Quyếtđịnhsố 2089/QĐ-BNN-TCLN của Bộ Nông nghiệp và Phát triển Nông thôn ngày 30 tháng 8 năm 2012 về "***Công bố hiện trạng rừng toàn quốc năm 2011***"
Decision No. 2089/QD-BNN-TCLN on "Promulgating the nationwide forest area 2011", issued on 30th Aug 2012 by Ministry of Agriculture and Rural Development (MARD)

The important milestones in the legal framework of forest land allocation in Vietnam over the past two decades are described below.

Box 5. 4: Milestones in forest land allocation over two decades

Aug. 1991: Forest Protection and Development Law approved by National Assembly, making an effort to involve local people and different economic sectors in forest protection and development.

Jul. 1993: Land Law approved by the 9th National Assembly, stipulating the rights of title holders to lease, exchange, inherit, mortgage, and transfer land-use titles.

Jan. 1994: Government Decree No. 02/CP on allocation of forestland to local organizations, households and individuals.

Jan. 1995: Government Decree No. 01/CP on contracting of land for agriculture, forestry, and aquaculture purposes.

Nov. 1999: Government Decree No. 163/1999/ND-CP on leasing of land for forestry purposes.

Nov. 2003: Land Law passed by the 11th National Assembly, recognizing the legal status of communities in land tenure.

Dec. 2004: Forest Protection and Development Law passed by the 11th National Assembly, recognizing common property as a legal forest management arrangement.

Source: (Tan and Sikor 2011)

5.2. The formal process of transferring community forests

To clarify how forest management rights are transferred to local communities, it is necessary to understand the basic steps of the community forestry formalization process.

- ***Principles:***

  - The jurisdiction and time limits of a forest's allocation, lease, and withdrawal must comply with the regulations of Article 22 of the Forest Protection and Development Law;

  - The forest areas under dispute may not be allocated or leased;

  - The allocation, lease, and withdrawal must be accompanied by community participation and a public announcement.

- ***Conditions of forest allocation, lease, and withdrawal:***

  - Article 19 under Decree No. 23/2006/NĐ-CP (See Appendix 1, LA – 41) stipulates that the allocation and lease of forests must be based on: i) plans of forest protection and development which are approved by state-authorized agencies; ii) forest status (production forest, protection forest, special use forest); iii) application forms by organizations, households, individuals, and communities approved by state-authorized agencies at relative levels; and iv) plans for forest and forest land allocation and lease designed by a communal authority with local people's participation, a requirement for approval by the district people's committee.

  - Organizations, households, individuals, and communities must be able to protect, manage, and develop allocated forests.

- ***Limits of forest allocation:***

  Limits of forest allocation are proposed to a provincial people's committee by the district people's committee based on the local forest fund. These limits may not be over the maximum level stipulated in Article 22 of Decree No. 23/2006/NĐ-CP (See Appendix 1, LA – 41).

- ***Procedures of forest allocation:***

  - Step 1: *Preparation*. The steering committee and forest allocation council at relative levels (district and commune) are established along with the mission team at district level.

  - 2nd: Step 2: *Checking applications*. Households, individuals, and communities living in the vicinity of the forests initiate the process by submitting an application for forest allocation to the communal people's council. In this application, they must express their interests in managing a particular forest. The communal people's committee then directs the communal forest allocation council to check the forests

for handover to the households, individuals, and communities in question. The approved applications will be sent to district forestry agencies. This step takes 15 working days after the initial application is received.

- Step 3: Documents are assessed and improved by district agencies. The verified documents (with statement report) are submitted to the district people's committee. Fifteen working days are required to make a decision.
- Step 4: The district people's committee's approved decisions for forest allocation are delivered to the communal people's committee to allocate forests to households, individuals, and communities.

Source: *(Self collection, see Appendix 1, LA – 42)*

5.3. Network patterns of powerful actors

5.3.1. A brief introduction to the research sites

Located in Northwest Vietnam, the mountainous provinces of Hoa Binh and Son La are mainly inhabited by various ethnic minorities including Thai, H'Mong, Muong, and Kinh. These provinces are part of Song Da (Da River) watershed where two hydropower plants currently under construction will make the watershed a major source of electricity for Vietnam.

The forest areas of Hoa Binh and Son La provinces are approximately 0.4 million hectares and 1.4 million hectares respectively. The research area contains a significant range of natural forest stands, as well as degraded forests and forests that have experienced clear cutting and shifting cultivation. In the 1990s, the forests in Hoa Binh and Son La drastically declined in both quantity and quality due to various subjective and objective factors, including illegal logging, hydropower plant construction, land-use changes, and shifting cultivation (slash and burn) (Lam 2012) (LA – 24). In order to tackle deforestation and confront the decline of their forests, Hoa Binh and Son La have implemented policies of forest land allocation to households, individuals, organizations, and communities based on Decree 02/CP, "*Promulgating the regulation of forestry land allocation to organizations, households,* and *individuals for forestry purpose*s" (LA – 35).

Although living conditions have steadily improved in the region's socio-economic development over the past 10 – 15 years, this area is still one of the poorest in Vietnam. While forest cover has considerably increased from 29% to 36% in the last decade through national and international efforts, the over-exploitation of natural forest resources (e.g., construction timber, fuel wood, and other forest products); and the hunting of endangered species still continues in natural, special use, and watershed protection forests.

At the national level, the prime minister issued Instruction No. 12/2003/CT-TTg on "*Urgent strengthening of methods for Forest Protection and Development*" on May 16th, 2003 (LA – 43). This Instruction provides an array of solutions to various sectorial problems and urges the provinces to enforce existing regulations and decisions while also restricting the utilization of all types of natural forest to the lowest possible level.

5.3.1.1. Son La province

a. Natural conditions and forest resources

Located 320km away from Ha Noi in the center of Northwestern Vietnam, Son La is one of the three largest provinces in Vietnam with a total area of 14,174.44 km^2. In Son La, agricultural land makes up 927,515 ha (65.4%), of which the majority (926,989.8 ha) is forestland area. Data for land use in Son La province is given in the following table.

Table 5.3: Land use state of Son La province in 2013

No.	District	Natural Area		Agricultural Land		Non-agricultural Land		Unused Land	
		Area (ha)	%	Area (ha)	%	Area (ha)	%	Area (ha)	%
	Province	**1,417,444**	**100**	**927,515**	**100**	**69,628**	**100**	**420,301**	**100**
1	**Son La City**	32,493	2.29	23,989	2.59	2.226	3.20	6.279	1.49
2	**Thuan Chau**	153,873	10.86	117,053	12.62	4.779	6.86	32.041	7.62
3	**Muong La**	142,924	10.08	85.391	9.21	9,794	14.07	47,740	11.36
4	**QuynhNhai**	106,090	7.48	60,760	6.55	17,359	24.93	27,971	6.65
5	**Mai Son**	143,247	10.11	102,054	11.00	5,464	7.85	35,730	8.50
6	**Yen Chau**	85,937	6.06	68,508	7.39	3,328	4.78	14,101	3.36
7	**Moc Chau**	108,166	7.63	84,021	9.06	4,758	6.83	19,387	4.61
8	**Van Ho**	97,985	6.91	71,092	7.66	3,429	4.93	23,463	5.58
9	**Phu Yen**	123,655	8.72	80,156	8.64	7,062	10.14	36,437	8.67
10	**Bac Yen**	110,371	7.79	61,606	6.64	5,296	7.61	43,470	10.34
11	**Song Ma**	164,616	11.61	103,044	11.11	4,258	6.11	57,314	13.64
12	**Soc Cop**	148,080	10.45	69,842	7.53	1,877	2.70	76,369	18.17

Source: Forest Protection Planning and Forest Development of Son La to 2020)[10]

Most of the forested land in Son La is made up of natural forests, including broadleaf, mixture, bamboo, and planted forests. Until now, forestry land areas in Son La have mostly been allocated to various entities, including communities, which manage a significant area (443,141.6 ha, equal to 47.8% of the total area of forestry land). Other forestry lands are managed by organizations (17.6%), households (17.2%), forest management boards (8%), groups of households (6.8%), local people's committees (1.4%), and state-owned companies (1.2%).

[10] Report on supplementing, checking and adjusting for Forest Protection Planning and Forest Development in Son La Province to 2020.

Table 5.4: State of forestry land and forest in 2013 (Unit: ha)

Type of Forest and Forestry Land	Total	Forest Classification		
		Special used forest	Protection forest	Production forest
Forestry land area	**926,989.8**	**68,597.8**	**415,722.0**	**442,670.0**
I. Forested Land	**635,935.0**	**53,424.5**	**302,236.5**	**280,274.0**
1. Natural forests	602,372.6	52,340.1	289,424.9	260,607.5
2. Planted forests	33,562.5	1,084.4	12,811.6	19,666.5
II. Non-forested Land	**291,054.7**	**15,173.3**	**113,485.5**	**162,396.0**

Source: Forest Protection Planning and Forest Development of Son La to 2020)

From the 2013 forest inventory report, it is clear that Son La's forest reserves are not very high; of these limited reserves, rich and medium forests make up an even smaller 12.2%, the remaining 87.8% is made up of restored and poor forests (the result of harvesting or slash and burn agriculture)[11]. Together with poor plant structure, the low quality forests affect forest biodiversity and the protection role of forests in the research area.

In spite of the limitations on forest quality, forest development in Son La has obtained certain results. The forest area has increased from 583,494 ha in 2008 to 635,935 ha in 2013, the result of state investments, projects, and programs as well as people's participation in forest protection and development.

Table 5.5: The forest movement of Son La

(Area in hectare)

Category	Period of 2008–2013					
	2008	2009	2010	2011	2012	2013
Forest area	583,494	586,969	625,786	633,687	635,344	635,935

(Source: Forest Protection Planning and Forest Development of Son La to 2020)

[11]Report on supplementing, checking, and adjusting for Forest Protection Planning and Forest Development in Son La Province to 2020.

b. Socio-economic conditions

There are twelve ethnic groups in Son La province; of these, most are ethnic minorities living in the mountainous regions. These people have low levels of education and depend on agricultural activities as their main source of income. Although incomes from forestry activities increased from 2008 to 2010, forestry production held a low proportion in the structure of agriculture and forestry, and aquaculture. Moreover, cash income from forest products decreased from 78.96% to 57.59% due to forest degradation and changes in forestry policies. This decline in revenue is mostly the result of economic crisis and the conclusion of various projects (e.g., the Five Million Hectare project) and forestry policies (e.g., forest-closed policy[12]). This demonstrates that the revenue generated from forests often does not come directly from forest products, but rather from forestry activities (such as forest protection) and financial investment in projects. The products extracted from forests primarily meet the demands of the local inhabitants and are used in everything from subsistence (e.g., fuel wood, bamboo shoots, mushrooms, and medicinal plants) to ornamentation to building houses.

5.3.1.2. Hoa Binh province

a. Natural conditions and forest resources

Located in Northwest Vietnam, Hoa Binh is a mountainous province 76km away from Ha Noi that shares a western border with Son La. Of the total natural area of 460,869 ha, 352,922 ha (76.58%) is agricultural land, most (62%) of which is forests and forestry land, as seen in the table below.

[12] To deal with weaknesses in forest management, forest protection, forest exploitation, transportation, and wood exportation, the prime minister of Vietnam has enforced Instruction No. 462 which addressed to "*immediately close the forest applied to the following forests: protective forest, special-used forest, rocky-mountainous forest, poor forests needed to be restoration-oriented protection and regeneration"* (See LA – 46).

Table 5.6: Land-use situation of Hoa Binh province

No.	Land types	Area (ha)	Percent (%)
	Total natural area	**460,869**	**100.00**
	Forestry land	**332,813**	**72.2**
1	Protective forest	139,997	30.3
1.1	Forested land	102,872	
1.2	Un-forested land	32,125	
2	Special-use forest	41,987	9.1
2.1	Forested land	33,954	
2.2	Un-forested land	8,033	
3	Production forest	155,827	33.8
3.1	Forested land	84,714	
3.2	Un-forested land	71,113	

(Source: Planning for forest protection and development of Hoa Binh province in the period of 2010 - 2020)[13]

Similar to Son La province, forestry land in Hoa Binh makes up the majority of the natural area, with 332,813 ha out of a total of 460,869 ha. Of this land, 39% is natural forest area, which includes protective forest and special-use forest; planted forest follows with 34 percent. By January 20th 2014, most forest areas in Hoa Binh province had been allocated to organizations (202,660 ha), individuals (38,784 ha), and households (163,875 ha). Smaller sections are currently under the management of local authorities (Communal People's Committee) (IE – 69, 70, 71, see Appendix 3). Under efforts to improve forest conditions, natural protected forest areas and newly planted forests have increased from 38% in 1998 to 49% in 2013. However, the contribution of the forestry sector in the structure of agriculture and the forest economy is still limited due to the end of the Five Million Hectare project and forest-closed policy. This caused a reduction of income from the forests for the local people and direct forest users.

[13]Presented in the Resolution No. 36/2012/NQ-HDND of Provincial People's Council on "Land-use planning to 2020, land-use schedule for the first five years 2011 – 2015", issued on July 18th 2012.

b. Socio-economic conditions

According to recent census data from Hoa Binh, 30 ethnic groups live in the province; the six largest minorities, Muong, Kinh, Thai, Tay, Dao, and H'Mong, live primarily in the remote, mountainous parts of the region[14]. Population distribution, geographical remoteness, and other relevant factors have led to difficulties in the socio-economic development of the region; investment for infrastructural/production development and investment are higher, riskier, and less effective here than in other areas.

Due to shortages in arable land, forest resources play a crucial role in the lives of the local inhabitants, especially in the highlands. Household revenue from forests is mostly from external investments through programs/projects, as well as forestry activities like forest protection and plantation.

Although forestry activity has required participation at various levels (particularly the local level), forest protection, development, and activities in Hoa Binh and Son La have not achieved the expected results due to the following reasons:

- Passive participation of the locals in forestry activities which mobilized by authorities and functional agencies at different levels. As a result, forest encroachment and illegal field cultivation are on the increase in the region, often at the expense of forest fire prevention regulations.

- Illegal logging and slash and burn happening throughout the remote areas of the province make protective function of the forests, especially watershed protective forests, declined in the region.

- Poor plant structure and dispersedly planted forests. These lead to low forest productivity, do not meet the demands for economic development, and only contribute to poverty alleviation and household economic improvement in a limited fashion.

- Weak coordination between departments, professions, administrations at all levels, and organizations at the local level. This considerably affects the executive process of planning, implementation, forest protection, and development.

[14] The Muong group makes up 60 percent of whole provincial population and can mainly be in Lac Son, Kim Boi, Tan Lac, and Cao Phong districts.

- Lack of consolidation in the organization of the state management of forestry from the provincial to the grassroots level. Unfortunately, this means that the role of the local government, especially at the communal level, has not been promoted in forest management, protection, and development.

5.3.2. Network patterns and powerful actors

This research has identified a general pattern of community forestry networks as shown in Figure 5.2. The Forest Administration (FA) and Forest User Group Committees (FUGR) are undeniably the core players in community forestry networks; as Krott (2005:126) stressed, the former holds the authority and takes on the executive tasks of forest management, while the latter represents forest users in accordance with the concepts of community forestry. The village authority (VA) also gets involved in community forestry cases; committees are established by commune administrations and are generally chaired by the commune administrator.

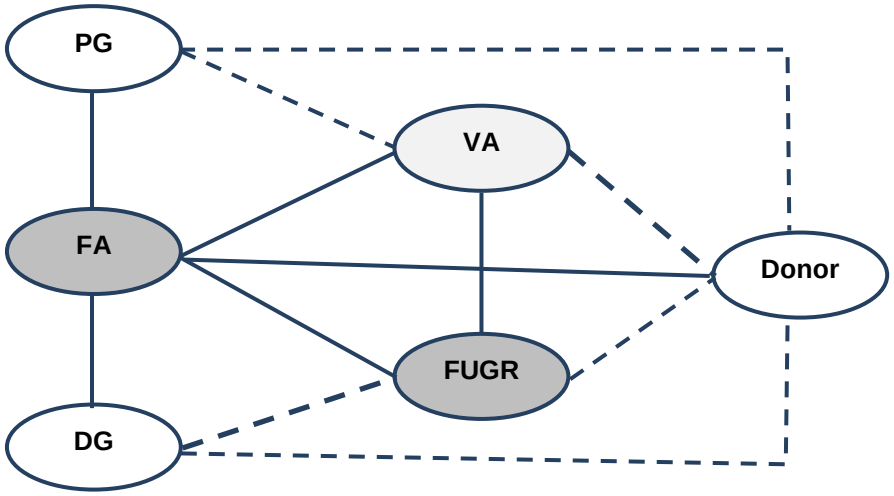
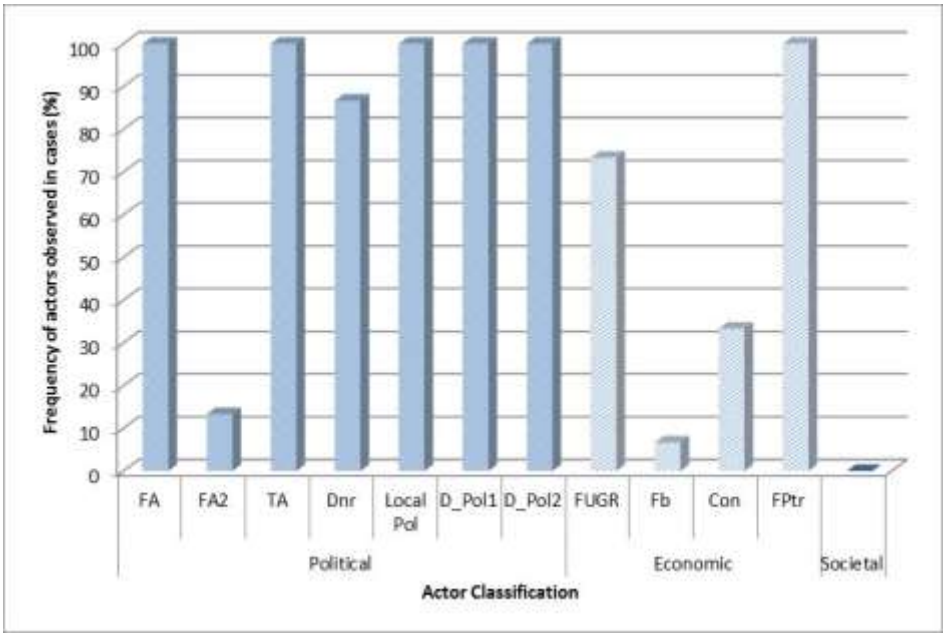


Figure 5.2: Community forestry network in the research sites

Across our 15 case studies, 13 relevant actors were identified, of which political actors (e.g., forest administrations, donor organizations, traditional authorities) and economic actors (e.g., community forest committees, consultants) were the most frequent relevant actors (see Figure 5.3). The presence of these actors has been confirmed by studies from the Community Forestry Working Group where a total of 427 relevant actors were identified across 57 community forests (Devkota 2010; Maryudi 2011; Mbolo C. Y. M. 2012; Schusser 2013; Yufanyi Movuh 2013; Schusser et al. 2015). Community forest

committees are relevant actors since they represent local forest users and, through their normative claim, are involved in forest management decisions. Public administrations, donor organizations, and traditional authorities are also relevant actors. The figure below also shows the political actors appearing in all cases, which can help to explain how they influence community forestry programs. These results are in line with Schusser et al.'s (2015).

Figure 5.3: Frequency of the relevant actors in community forestry in Vietnam



(Source: Field survey 2012, 2013, own description)

As discussed in the methodology section, the group of powerful actors involved in community forestry networks is identified via the quantitative calculation of 'individual relative power – Xi' and 'dominant degree – Di'. By doing a power diagnosis in the case studies, we can observe and identify the most powerful actors (See Table 5.6 for a summary, Appendix 7 for a detailed calculation). This is the crucial foundation for the analysis needed to qualitatively determine how powerful actors build and accumulate their power.

Table 5.7: Power diagnosis summary of case studies

No.	Forest user group	No. Cases involved	No. Cases identified as powerful actors according to power element		
			Dominant Information	Incentive	Coercion
1	Forest Administration	15	15	15	15
2	District Department of Agriculture	15	0	0	15
3	District Department of Environment and Resources	15	0	0	15
4	State Forest Company	1	0	1	1
5	Management board of Natural reserved area	2	0	2	2
6	Agro-forestry extension	1	0	0	0
7	International donor	6	6	6	5
8	Local donor	7	3	7	4
9	Consultant	5	5	0	0
10	Communal authority	15	8	1	15
11	Forest User Group Committee	11	11	10	9
12	Forest patrol team	15	0	0	0
13	Traditional authority	15	15	6	5

The data in Table 5.7 indicate why the forest administration remains one of the most powerful actors in forestry. In addition to the coercive strategies documented across all 15 cases studies (where they are considered a 'necessary actor' for the implementation of community forests), they provide the actors with incentives and the network with very good information regarding community forestry. Moreover, as shown in Figure 5.3, additional actors include the central government (i.e., public administration and local governments), district agencies (on behalf of the district government), and donor organizations (Schusser et al. 2015).

This research also has observed the involvement of political actors such as district agencies and local governments. Although there was no obvious evidence of these actors' role in community forestry processes, they as representatives of state and local governments certainly are involved in making decisions over the issues related to community forestry implementation. Resting on the legal rights granted to them by legislation, political actors at local levels can influence community forestry activities to be

in line with state goals through land-use planning and forest land allocation. It has also been proven that local government units often represent state governments at the local levels (Clement and Amezaga 2009; Ngai 2009; Tan and Sikor 2011; To and Tran 2014); indeed, Tan (2006) has strongly argued that land allocation in Vietnam did not go along with the forest entitlements accessed by local forest users.

The influence of consultants and donors was also investigated during field survey. Although not involved in all cases, they appear able to influence the social processes of community forestry if and when they get involved. Their power is built upon the dominant information provided to other actors in the network as well as the powerful incentives they offer to sway other actors, particularly local authorities and communities, to follow their forestry-oriented goals. Traditional authorities and forest user group committees also have a certain degree of power based on the trust placed on them by other actors in the community forestry network (Shackleton et al. 2002; Andersson and Agrawal 2011), (LAs – 06, 25, 26, 35, 47, see Appendix 1).

"The v*illage leader or* p*atriarch is nominated to be leader of* a *forest user group committee.* The *FUGR's members are selected from* the *hamlet party cell, farmer*'s *association, women's organization, veterans' organization, youth union, etc.* The l*eader of* the *FUGR is accountable for* the *inspection and operation* of *forestry practices* in *the hamlet*."

Traditional authorities and FUGR are mentioned by almost all actors in each of the community forestry networks; it therefore comes as no surprise that they appear to be linked. They also represent villagers in community forestry practices, particularly in motivating local villagers to comply with forest protection regulations and decrees issued by the forest administration. The rest of the actors in the networks seem to play second fiddle to the powerful ones according to in Table 5.7. The rest of this chapter will focus on explaining the power features on which powerful actors shape community forestry.

5.4. Coercion as a top-down form of power

On the basis of the asymmetric social relationships in community forestry presented in Chapter 2, this section will examine the modes and methods that powerful actors employ to shape community forestry, ensure tasks are completed by subordinates, wield of

authority, and influence or manipulate subordinates' expectations. The uses of coercion vary depending on the actors and their coercive strategies, but they include both regulatory instruments involving punishments and planning instruments to gain the obedience of the power subjects.

5.4.1. Coercion by the forest administration

Forest policy documents such as the Forest Protection Law (1991, amended in 2004), Decree No. 163 on Forestry Land Allocation (1999), and Decree No. 119 on Structure and Activities of Forest Ranger (Las - 02, 05, 40, Appendix 1) define distinct territories in which the forest administration penetrates to the community level on forest-related issues. On the basis of these legal documents, the forest administration not only claims territory but also prescribes and intensifies its legal authority by enacting/enforcing regulations and expanding its bureaucratic apparatus (Barber 1990; Vandergeest and Peluso 1995; Morris 2000).

The first legal foundation for forest administration, the *Ordinance on Stipulating Forest Protection*, was issued in 1972 by the Standing Committee of the National Assembly. This ordinance entrusts the forest administration with forest protection/development and encourages continuity in the formulation and prescription of forest laws and regulations. The stated objectives of the enacted policy concentrate on improving forest management under state management agencies. The Forest Protection Law of 1991 is recognized as the first official document regarding forest protection and development; with this law, forest protection and development were assigned to the forest ranger force and state forestry management agencies, e.g., state forest enterprises (now called state forest companies), national parks, and natural reserve areas (To et al. 2014). Local communities in the vicinity of forests were therefore either isolated from forestry activities or only allowed to passively participate in them. Mismanagement of state forest enterprises and forest management boards, along with inconsistencies in laws/regulations and weaknesses in the forest ranger force were all technical problems requiring the forest administration's attention and engagement. Acts and ordinances passed in 1972 and 1991 lend authority to forest administration officials, enabling them to control and facilitate forest activities in general and community forestry processes in particular. Authority is thus the possession of expected and legitimate power (Lasswell and Kaplan 2013).

Intimidation via actual or threatened use of physical violence is often wielded to force others to act or keep another from acting. The state forest apparatus uses various strategies to ensure control over the uses of forests and other actors. The ordinance passed in 1972, along with the Forest Protection Law in 1991 and LA – 05 in 2006, enable the forest administration to control forest resources and prevent unauthorized activity with the support of the police and military. This strategy remains a crucial means of ensuring order in the implementation of community forestry. To this end, the actor using physical threats must be able to convince the target actors to use force against themselves with the display of instruments and means of force of control.

"The forest ranger, established at village level, coordinates with the other volunteer *forest protection forces (*e.g., the *forest patrol team)* in *the area*s of *forest protection and forest fire prevention*. He also implements forest investigations as scheduled twice a month, *investigate*s *illegal activities in the forest*, and *assists* the c*hairman of* the c*ommunal* p*eople's* c*ommittee in dealing with administrative infringement in the field of forest management and protection."* (IS - 41), (LA – 05).

Many studies in community forestry have noted that there were some reasons for the forest administration's control over the formation of user groups as well as their development of the forest management work plan (Gilmour and Fisher 1991; Ribot 2003; Larson 2005; Shrestha 2006). These reasons included: (1) controlling the process is a pragmatic necessity of forest administration; (2) the complexity of forest management (including silvicultural techniques, biodiversity, and sustainable forest management) is not understandable to the very low educated level or illiterate; and (3) control originates from the structure of a forest bureaucracy, as changes in forest policies have not resulted in changes in trained, upwardly accountable, and target-oriented forestry staff with an institutional priority of forest protection.

The implementation of community forestry programs requires decision-making at various levels, ranging from the Ministry of Agriculture and Rural Development (MARD) to decisions by senior bureaucrats in the Vietnam Administration of Forestry, as well as provincial and district decisions. In addition, these agencies collaborate with other actors, including donors, forest user group committees, local authorities, and institutions in the private sector to secure community forestry processes. The coercive potential of the

Forest Administration chiefly comes from its regulatory instruments, technical requirements, assistance of donors and consultants in community forest management, and coalition with other actors.

5.4.1.1. Regulatory instruments as coercion

Legal documents such as LA – 02, 35, 48 and Land Law 2003 (amended in 2014) serve as binding rules that enable community forestry in Vietnam. Other documents, such as Decisions, Circulars, Guidelines, and Official Dispatches issued by MARD and the Vietnam Administration of Forestry, are strong regulatory instruments used by the Forest Administration as well as multi-level governments implementing community forestry.

a. Forest Management Plans as a legally binding form of coercion:

Land-use plans or plans for forest protection/development at the village level should be approved by the district people's committee, as they are crucial to the formal handover of forestland to a community. A forest protection project and the development of a communal people's committee can be used as an alternative plan with the approval of the people's council at the village level. In addition to these plans, the traditional authority (e.g., hamlet head or patriarch) must complete an application form for the allocation of forestland to a community or forest user group committee; this document must be signed by all local forest users, creating a legally binding document between the forest user group committee and functional forestry agencies at the district level. The handling processes are formalized when a land-use certificate is granted to the head of forest user group committee based on the decision of the district people's committee. A forest management plan normally expires after five years at which point it must be renewed and/or amended. This forest management plan is the basis for implementing forestry activities in the allocated forests, including planting, harvesting, exploiting, etc. All interviewed foresters shared an understanding that sustainable forest management and utilization are the two most important objectives in a forest management plan (LA – 48).

Table 5.8: General of forestland allocation policy to community[15]

Items	By Land Law	By Forest Protection Law
Allocation types	The State allocates protection forests without land-use tax	- The State allocates production and protection forest without land-use taxes Requirements: - Allocated area is presented in the project of forestland allocation of communal people's committee that has been approved by people's council. - Forest handed over to community must be in the communal scale.
Limit	Unstipulated	Unstipulated
Duration	Long-term, stable	- Production forest: 50 years, extendable
Forest condition		Unstipulated
Rights		- General rights - Not allow to share the forest to the other members; Not allow to change, dispose, hire, pledge, and make business contribution.

Source: (Phuong 2008)

The forest management plan is not imposed by the forest administration; rather, it is a negotiated agreement that relies on dialogue between community members as well as between a community and forest administration officials. Indeed, the contents of a forest management plan are designed to effectively implement community forestry and strengthen the control of the forest administration over forest resources. An analysis of the 15 case studies proves that all the forest management plans were nearly identical because their applications were provided by the Vietnam Administration of Forestry and comprehensively applied to all community forests. The obligatory principles for harvesting trees applied to community forest can be summarized as follows:

[15]Pham Xuan Phuong – General of forestland allocation policy in Vietnam, real situation and orientation in the future – Summary record of forestland allocation in Vietnam, Hanoi May 29th 2008

Box 5. 5: Obligatory standards applied to community forests - cases of Hoa Binh province

- Strictly prohibited harvesting tree species of Group IA based on Decree No.32/2006/ND-CP, issued on 30th of March 2006;
- Applying the structure of forest-desired model to the appropriate forest conditions as in the following table.
- Comparing number of trees by diameter groups with number of trees defined in the structure of forest-desired model to decide number of tree cuts.

Source: self-description from field survey 2012, 2013

Table 5.9: Number of trees in the forest-desired model by diameter groups applied to community forests

Forest volume (m3)	Diameter groups						
	8 - 16	16 - 24	24 - 32	32 - 40	40 - 48	48 - 56	56 - 64
70 - 100	280	110	40	30	5		
100 - 140	330	180	55	25	10	5	1
140 - 200	440	175	70	30	15	7	2

Note: number of trees in each diameter group is calculated per hectare.

Source: self-description from field survey 2012, 2013

In the forest management plan, the number of fellable trees is determined based on the current volume of the forest and the real demands of the local people for such things as fuel wood, housing, fences, cages, and coffins. In practice, however, local forest users are only allowed to harvest fuel wood and small trees for fencing and breeding facilities. Higher tree diameter grades (i.e., 32 cm and over) are strictly controlled by the forest administration and district people's committee, even though the real number of trees is higher than that of the forest-desired model.

b. Issuing threats: suspending forest activities and withdrawing allocated community forests

The forest administration can threaten to impose its interests on community forestry by using regulatory instruments as the legal authority. Threats can be either soft (e.g., suspending activities or issuing warnings) or hard (e.g., withdrawing the forest allocation contract). They are often used with the intention of forcing another to act or keeping one from acting; use of threats are thus considered "either the last resort or the easiest means of establishing control over people and forest resources" in cases where the forest administration is unable to retain control over the forests (Peluso 1993:3).

According to the provisions stipulated in the Forest Protection Law of 2004 (section 26) and Decree No.23/2006/ND-CP, withdrawal of forest allocation can happen in the following cases (Las - 02, 41:

- After 12 months from the date of forest allocation, in cases where the forest user has not carried out forest protection and development activities;
- In cases where the forest user utilizes the allocated forest for improper purposes, does not do duty to the state, or seriously breaks forest protection and development regulations;
- After 24 months from the date of forest allocation, in cases where the forest user has not carried out forest protection and development as provisioned in the Forest Management Plan.

The District People's Committee is the state entity authorized to hand over and withdraw forests (LA – 48). The forest management plan therefore imprints the purposes of state control on the forests. Through written agreement on the forest management plan, the forest agency provides the forest users with a set of obligations and a tighter control over forest use rather than an independent decision-making authority.

c. Limitation used as coercion:

On the basis of the forest management plan and local regulations approved by the local community, penalties are prescribed for various activities in the community forest, including extracting forest products without the approval of the forest user group committee or forest ranger. Even after handing over the community forest, forest rangers impose control on tree harvesting, even though the forest management plan allows for it and no laws forbid it. Other types of forest product collection are also limited in community

forests, including grazing and the harvesting of non-timber forest products. Thus, the forest administration keeps control over a forest user's activities by imposing limitations.

d. Forbiddance as a type of coercion

Legislative documents regarding forestry and provisions that regulate community forestry protection and develop select forests have clear specifications on what activities are or are not allowed. By forcing the regulatory compliance of the locals, communities are entrusted with the management of their allocated forests in ways that meet local subsistence efforts.

Box 5. 6: Prohibited provisions of the regulation on community forest protection and development

- Use of fire in the forest for the personal purposes such as: beehives burning;
- Illegal exploitations, trades, and transportations of forest products;
- Exploitation or use of forest products without approval of authorized agencies (FUGR, Forest Administration, Communal People's Committee, and District People's Committee)
- Non-timber forest product exploitation that exceeds the quantity given in the Forest Management Plan and Local Regulation;
- Grazing of livestock that brings about bad effects to the planted forests, assisted-regenerate forests, and natural forest;
- Strict prohibition of hunting and catching wild animals in the community forests, except mice;
- Shall not implement harvest activities in the rain season, except dry season from October to December annually);
- Shall not cut down trees for fruits;
- Shall not sell non-timber forest products for the trade purposes;
- Shall not cut down trees for fire-wood; only cutting down dead trees, branches by manual tools.
- Shall not do farming in the community forests, and slash and burn.

Source: LA – 21, 29, and 32, field survey, Vietnam 2012, 2013

d. Coercion by requiring confirmation:

In 2005 and 2006, the Ministry of Agriculture and Rural Development (MARD) passed two decisions which strengthen the forest ranger's authority in controlling and inspecting forest products, including the origins of timber (LAs – 49, 50)[16].

Box 5. 7: Requirements of Decision No.59 on "Regulation of forest product inspection and control"

- The transportation of Fauna and Flora must have special license granted by District Department of Forest Protection;
- For the timber extracted from natural forests -allocated to organizations by the State- must be comprised sale invoice and origin of products with the ranger's hammer mark;
- For the timber extracted from natural forests -allocated to communities, households, and individuals by the State- must be comprised the origin of timbers -made by communities, households, and individuals under the instruction of the forest ranger-, verification of local people's committee, and hammer mark of the forest ranger based on the regulations of MARD;

Source: LA – 49, IS – 70, field survey, 2013

[16] Two decisions has strengthened and improved the authorities of the forest administration (forest ranger force) in controlling and inspecting forest products over the entities concerned with the use thereof.

Box 5. 8: Decision No.44 on "Management regulations of the forest ranger's hammer mark for tree elimination"

This regulation stipulates for managing and sealing hammer mark of tree elimination; forest ranger hammer over the timber extracted from natural forests inland; Timber belongs to the category of endangered, valuable and rare species extracted from intensively planted forests, gardens, or scattered plantation; Timber is the evidence of violation of the Forest Protection Law; *and the regulation is applied to organizations, communities, households, individuals concerning the use of forest products.*

- Civil forest ranger is responsibility of hammering timbers extracted domestically, imported, or confiscated with the witness of timber's owner
- To the timber extracted from natural forest, hammer mark is implemented at the transfer yard addressed in the exploitation record, or timber-gathering yard of the harvest area.
- To the timber -belonging to the category of endangered, valuable, and rare species- extracted from intensively-planted forest, garden, or scattered plantation; hammering is done at the gathering yard of the forest owner.
- To the round woods -marked by forest ranger, but divided into small pieces to transport-; hammering is done at the shortened place.

Source: LA – 50, field survey, 2013

e. Coercion by imposing a "forest-closed policy":

On September 11th 1993, the prime minister passed Instruction No. 462 on the ***"Stringent control of the exportation, transportation and exploitation of wood"*** to challenge weaknesses in forest management activity. This Instruction asked the Ministry of Agriculture and Rural Development to "*issue an instruction* closing the *following forest types: protection forests, special-use forests, rocky mountain forests,* and *poor forest* requiring *assisted regeneration*. These should be closed *immediately to* create *regulations for* the *protection and management* of *specific forest types"* (LA – 36). Prime Minister

Nguyen Tan Dung insisted in a government meeting that the state retains the right to close natural forests in order to restore them [17].

f. Informal use of authority as an example of coercion:

The existing authority systems provide the forest administration staff (e.g., forest rangers) with power and permit the substitution of staff preferences for that of forest users. Abuse of their authority positions and power abound. In many studies, it was found that the forest administration staff entrusted with licensing and controlling roles are corrupt (Stone 1989; Gilmour and Fisher 1991). Unequal decision-making capabilities give the forest administration staff opportunity to exploit forest users' potentials by accepting the decisions made by foresters even if they go beyond existing legal documents.

The alliance between forest rangers and the elite of a community -usually the chairman of the communal people's committee and the hamlet patriarch- is mostly observed to control the main sources of income from forest resources. These alliances and personal ties are maintained, as forest rangers enable committee members to retain their position and benefits (Malla 2001; Bimala Rai Paudyal 2008).

5.4.1.2. Technical rationale as a coercive instrument

a. Silvicultural operations:

In addition to the Forest Protection Law, silvicultural operations must be regulated in the forest management plan under the technical operational guidelines of the forest administration. Forest officials and rangers at the communal level are responsible for helping local forest users and the forest user group committee to implement silvicultural practices in accordance with the approved forest management plan.

Box 5. 9: Technical instruction applied to community forest management

Silvicultural operations in community forests are implemented by local forest users under the instruction and supervision of the forest ranger. The procedures for silvicultural operations must comply with Decision No.40/2005/QD-BNN, ***"Regulations on exploitation of timber and other forest products***,***"*** and Circular letter No. 35/2011/TT-

[17] http://canthotv.vn/tin-tuc/thu-tuong-yeu-cau-dong-cua-rung-tu-nhien-trong-nam-2014/

BNNPTNT, "***Guiding the implementation of logging, salvaging wood and NTFPs***" (Las – 12, 51).

- Forest user group committees make the natural forest's exploitation plan in the natural forest with the validation and instruction of the forest ranger force;
- This plan is then submitted to the communal people's committee so they can summarize the tree exploitation plan;
- The district people's committee makes the final decision for tree exploitation by the local community.
- The village forest ranger force and forest user group committee are granted authority to supervise forest exploitation.

The technical specifications mentioned in Box 5.8 show that only the forest user group committee is permitted to undertake silvicultural practices—and even then, only with the approval of the forest management plan and by official decision of the district people's committee. It is thus clear that the forest administration has the coercive capacity to give permission for forestry operations in a community forest, even when the forest is formally allocated to a forest user group. The director of the forest protection section of Yen Chau district (ISs – 41, 70, and 95) suggests that forest rangers would not want to lose control over community forestry activities. Thus, although forests are allocated to a community, forest administration in general and forest rangers in particular still continuously search for ways of gaining more power in community forestry. The technical rationale linked to decision rights could as a result be considered coercion in community forestry in Vietnam.

b. Forest inventory:

According to Decision No.106/2006/QD-BNN on ***"Guidelines for Community Forest Management at hamlet level"*** (LA – 48), the purpose of a forest inventory is: 1) to thoroughly understand the current conditions of forest resources and forestland as the basis for the application of beneficial rights and community duties; 2) to specify the goals for using each forest and plot of land; and 3) to propose interventional methods which can be applied to the allocated forests in terms of exploitation, protection, plantation,

generation, etc. The forest inventory process is formally based on the participatory principle of local forest user groups with the forest ranger's assistance; however, in practice the forest inventory process is implemented by a third party (normally a forest inventory association) employed by the forest administration (ISs - 4, 5, 67, 68, 69). Local forest user and forest user group committee participation in the forest inventory process is informally superficial. It has also been emphasized in legal documents that forest inventory is a prerequisite for the implementation of community forest management at the village level (LA – 48).

5.4.2. District government and coercion in the network:

In the studied community forests, the district Department of Rural Development and Department of Environment and Resources are the representative agencies of the district government over agricultural and forestry activities in the area (LA – 03). These two agencies act as advisors to the chairman of the district people's committee in decisions concerning forest utilization and land-use practices. In forestry activities in general and community forestry activities in particular, these agencies coordinate with the forest administration and communal people's committee to control and manage the area's agricultural and forestry activities through their issued decisions. Corresponding with the empowered authorities clause stipulated in legal documents (LAs – 03, 14, 17), the district people's committee has rights of approval, license, and ratification over socio-economic development activities happening at the district level.

*"…*The c*ommunal* p*eople's* c*ommittee*, *after ratifying and collecting the timber cutting plans of* the *local community*, *submits* these *to* the d*istrict* p*eople's* c*ommittee for approval" (LA – 60).*

"… The district people's committee has the right to approve forest and forestland allocation to a community; license timber extraction from the natural forest by local forest users; and decide on the forest management plan…" (LAs – 40, and 51).

"*… The district people's committee makes decisions and approves documents concerning community forest management, including decision of forest allocation to a community and the regulation of community forest protection and development" (LA – 48, Chapter 8, Article 33.)*

Box 5. 10: Procedure for approving tree cuts in Yen Chau cases

"… We must get an exploitation permit granted by the District Department of Agriculture and Rural Development if we want to extract timber from the forest. The procedure of petitioning for logging is very complicated. The application for logging must be approved by the FUGR, then the FA, and afterward the Local Po. The final decision is made by L_Pol1.

In the past 2 years, L_Pol1 has not granted forest owners any licenses for wood exploitation without reason".

Source: IS – 11, 19, 41, 42

5.4.2.1. District Department of Rural Development - Local_Pol1

As mentioned above, the District Department of Rural Development is a specialized agency under the direct management of the district people's committee; it is responsible for implementing the state management functions in the region on agriculture, forestry, irrigation, aquaculture, and rural development[18] (LA – 14, Part II, Item I). The authorities and responsibilities of the district people's committee have been assigned by Legal Act 14 (See Appendix 1), by which L_Pol1 is responsible for: 1) organizing, implementing, and promulgating the normative documents and plans; 2) providing guidance on techniques and professions to the communal people's committee in forestry and rural development activities such as afforestation; and 3) exploiting forest products (LA – 14, part II, item II, point 6). According to the assigned functions and tasks, L_Pol1 is in charge of ratifying and licensing permissions within the limits of the empowered authority and as such can approve the exploitation applications of forest users. Local_Pol1 certainly has coercive capacity over other actors, such as the village people's committee, forest user group committee, and even local forest rangers in the community forest network.

[18] ***"Joint circular"*** of MARD – Ministry of the Interior, No. 61/2008/TTLT-BNN-BNV

5.4.2.2. District Department of Environment and Resources - L_Pol2

L_Pol2, a professional agency directly under the management of the district people's committee, functions to advise and assist the committee at the district level on such topics as the environment and resource issues[19], including land use and natural resources (LA – 17). L_Pol2's authorities and tasks related to community forest activity have been defined in detail in legal act 17 (See Appendix 1), by which L_Pol2 has been empowered to license land-use certificates and land ownership (LA – 17, part II, section II, point 3). Therefore, after being checked by the communal people's committee and forest administration, all Forest and Land Allocation (FLA) documents will be sent to L_Pol2, who can then issue the user license. L_Pol2 is as a result estimated to have specific coercive capacities in community forestry even though its involvement therein is limited to the issuing of land-uses certificate and land ownership.

5.4.3. Local authority (Local-Pol) and coercion in the community forest network

The commune people's committee under the direct management of the district people's committee manages state activities for socio-economic development at the regional level. The formal interests of the local authority are: a) setting up an annual socio-economic development plan; b) setting up the state budget, collecting revenue, and carrying out expenditures in the region; c) managing land use and building infrastructure according to legislation; and d) building communal infrastructural works; (LA – 03, Article 111).

5.4.3.1. Legally approved authorities as a kind of coercion:

The local government unit is publicly elected by the local community, and functions as the state administrative management at the local level[20] (LA – 03). Because of decentralization, the local authority is responsible for the district people's committee when implementing and deploying development activities, including activities in community forestry [21]. The Local-Pol chairman has the authority to make decisions within the limits of

[19] Part II, Section I, Point 1, "Joint circular" of Ministry of Environment and Resource – Ministry of Interior
[20] Chapter IV, Item 3, law on "***organization of people's council and people's committee"***
[21] Article 112, law on "***organization of people's council and people's committee"***

his power as set down in law [22]; as stated by Krott (2005:122) *"Politicians can refer to the mandate which have been given in the process of their election. The politicians can considerably strengthen this mandate by mobilizing the public and mass media for them, to achieve more power in the face of administration".* This power is shaped in harmony with the interests of the political party the chairman stands for.

In community forest management, the chairman receives and settles procedures for logging and salvaging wood/NTFP in his own area (LA – 12). Based on the circular letter, the Local-Pol possesses coercive rights in verifying the validity of formalities; it also has the right to suspend activities and decline to manage procedures for logging and salvaging NTFPs in cases where forest owners are being investigated[23]. The Local-Pol chairman authorizes the decision to establish a forest user group committee (FUGR); it also regulates the operation of the FUGR and Forest Patrol Team (FPtr) –even it is established voluntarily- (LAs – 19, 20). By relying on devolved power, the Local Pol chairman has the power to make decisions regarding FUGR establishment, including which potential members should be approved or rejected.

"... We have the right to suspend activities when we detect a breach by forest owners. Moreover, the chairman of the local government also holds veto rights over the establishment of a community forest management committee, operation regulation of the FUGR, as well as the forest patrol team..." (ISs - 9, 22, 26, and 35).

5.4.3.2. Requirement of regular report as coercive capacity:

Because the Local-Pol is a civil authority agency working on behalf of the district government at the communal level, it is accountable to the district government for socio-economic activities happening in the managed region. The Local-Pol thus asks local institutions to report the main issues in a weekly meeting and inform the local authority on the unusual issues occurring in the commune, particularly those related to illegal forest product collection or infringements on forest regulations. This regular reporting is seen as a coercive element that the Local-Pol has over local institutions in community forestry.

[22] Article 127, item 7 , Law on "***organization of people's council and people's committee"***
[23] Circular letter No. 35, article 27, "***Guiding the implementation of logging, salvaging wood and NTFPs***"

5.4.4. Forest user group committee and coercion in the network

FUGR, normally the village chief or patriarch, takes responsibility for executing forestry activities in the area (Las – 09, 48). FUGR members—usually representatives of social organizations like youth unions or veterans' organizations—are elected in a local poll held every two years (LA – 20). It is very important for there to be effective collaboration among forest users in implementing CF activities; in practice, the FUGR coordinates with the forest ranger and local authority in the community forest process. Through the approved five-year forest management plan, the committee designs local regulations with the assistance of the forest rangers and local authority; these regulations are the basis for the FUGR's action against forest users' or non-forest users' infringements.

Along with planning and conducting CF activities, the FUGR has the right to decide and approve requests for households' forest product exploitation as based on annual and approved five-year operating plans (LA – 20, Chapter III, Point 2). Although the FUGR does not possess legal powers as a governmental institution, it may decide the financial penalty and confiscate illegally collected forest products as regulated by local standards of forest protection and development (IS – 11). This information helps us to identify the FUGR as a powerful coercive element in the final qualitative results.

Box 5. 11: Structure of Forest User Group Committee

… The FUGR is comprised of seven members: Three official members (one head of the committee, one accountant in charge of the village fund for forest development, one controller holding cashier) and four unofficial members of the forest patrol team.

Each of the local people has to contribute two kilos of rough rice (worth 40 cents) to the forest protection fund per year. In addition, a portion of the fines received from cases where forest protection convention and local regulation were violated are put into the village forest protection fund to pay for the FUGR's activities (e.g., forest patrol, rewards for detecting breaches under forest operating and local regulations).

To avoid negative impacts on the community forest on Sundays to collect fuel woods, NTFPs, and bamboo shoots; they are prohibited from harvesting medicinal plants medicinal plants.

Source: IS – 11 (See Appendix 2)

Although a FUGR's formal power is not very strong, most of the locals conform to the terms of the local regulations and obey the FUGR's decisions on everything from forest product sharing to punishments. In the cases of Bac Hung and San community forests (cases No. 4 and 5), the traditional authority may allow the local people to access NTFPs and collect timber in the community forest.

In 1997, the natural forests of Bac Hung hamlet were handed over to households and household groups under Decree No.02/CP by the Government (LA - 35). However, because of topographical problems like rocky mountains and steep slopes, forest management and protection were met with many difficulties. In 2004, the local government decided to hand over the whole natural forest to the community forest committee to manage and protect.

Although a community forest committee has not yet been established in the San community, the traditional authority and forest patrol team have been in charge of community forest management for ten years. These actors have full rights to manage the allocated forest in terms of NTFP and fuel wood collection. The local people cannot access the community forest without the traditional authorities' permission.

5.4.5. Donors (Dnr) and coercion in the community network

In the 15 case studies, international donors (I_Dnr) were found to be involved in six cases. As an institution on behalf of MARD, I_Dnr (the German Bank for Reconstruction, KfW7)[24] is an abbreviated name for the Forestry Development Project in Hoa Binh and Son La that is co-sponsored by the German and Vietnamese governments (Las - 07, 08, 13). The project is organized at the state and local levels. The state project management board is under the direct supervision of the Management Board of Forestry Projects founded by the minister of MARD (LA – 07, Article 1); the local project management board is located at the provincial and district levels. The project focuses on the following objectives: (i)

[24] Decision No. 1528/QĐ-BNN-HTQT by MARD on "Approving the Forestry Development Project in Hoa Binh and Son La (KfW7)"; Decision No. 3809/QĐ-BNN-TCCB by MARD on "Establishing the state project management board – the Forestry Development Project in Hoa Binh and Son La (KfW7)".

afforestation of the available species in the areas and regeneration of the natural forest; (ii) community forest management; (iii) biodiversity conservation (Anonymous-3 2006).

5.4.5.1. Donor's funding and coercion:

As stipulated in the foundation of the KfW7 project management board, this project funds local forest users and the community in their community forestry practices, including paying wages for forest plantation and protection. Although I_Dnr has no right to force local forest users and the community to implement community forestry, it does through its funding have certain coercive capacities over local forest users, the FUGR, and even the local authority in operating community forestry. To the resource-poor community forests, the interests of the donor in projects and forest agencies play a crucial role in handing over the forests to local communities. In this case, donor funding through administrative mechanisms adds value to the forest administration, who were able to bargain for their own benefits. However, donor financing in practice has not brought about expected social and economic changes. Therefore, regardless of the success of the project, forestry projects have some important effects on the relationship between the forest administration and local communities (Shrestha 2000).

Box 5. 12: Donor's funding as coercion

… Each of the forest users opens a bank account through the district KfW7 management board. The executive director of this board is nominated to be the representative account holder. The afforestation salary will be automatically sent to their account after opening. If the forest plantation result is verified and accepted by KfW7 staff and approved by provincial KfW7 management board, forest users can withdraw money from their bank account. If not, the money will be sent back to the bank account of the executive director[25].

Source: (IS – 06)

[25]To facilitate the implementation of a community forestry program,

5.4.5.2. Donors and their alliances as coercive capacity:

Donors are used to construct alliances from the macro- to micro-levels in community forestry with, for example project management boards at the state level to coordinate their program with government line agencies and provincial management boards to coordinate with district government agencies to implement community forestry in the field. This coalition aims to facilitate project activities and reduce future risk or conflict. On the basis of this closed relationship with participating actors in the alliances, the donor has a certain coercive capacity in the community network.

5.5. Dominant information as a source of power

The dominant information approach is defined by Krott et al. (2013) as a social relationship among actors in which one actor alters another actor's behavior with unverified information. This dominant information is consolidated on two key factors: (1) the subordinate's inability to verify the information; (2) the subordinate deliberately allowing the information to go unverified due to trust in the powerful actor (Jones and George 1998; Parsons et al. 2012; Simon et al. 1981; Krott et al. 2013). Experts provide dominant information in most cases where the end user is unable to check the information. Dominant information is a power process but not necessarily one where the information hurts the interests of the end user; rather, expert advice often helps them.

There are many reasons leading actors to be trustworthy in the network, including confidence, good experience, information and expertise, and possible future benefits. This causes an uneven distribution of trust among actors in the community forestry network.

5.5.1. The forest administration and dominant information in the community forestry network

As stipulated in Decree No. 119 on "Organization and Activity of the Forest Ranger", the forest administration is acting on behalf of MARD and under the direction and management of the people's committee at various levels; as such, it takes responsibility for managing and controlling the forest and forestry activities. As analyzed in previous chapters, Vietnamese forests drastically declined in the 80s and 90s due to the mismanagement of state forest institutions. At that time, forests were under a state-centralized management mechanism delegated by state forest enterprises (now state

forest companies)[26], natural reserve areas, and national parks. In addition to circumstances like forest fires, land-use changes, and forest exploitation, the main factors causing forest degradation in Vietnam from 1975 to 1990 include: i) agricultural development policies; ii) infrastructural development policies; and iii) land policy (land law and forest protection law) (Thuy et al. 2012).

Box 5. 13: Mismanagement of the State forest enterprises

By the time "Đổi mới" task was deployed in the 1990s, state forest enterprises were a key state institution; as such, they implemented forestry production activities, including exploitation, processing, afforestation, and forest regeneration. These state enterprises also undertook the public benefit services to encourage socio-economic development and to ensure national security in the mountainous regions. From 1961 – 1990, these agencies managed 71.12% of the total plantation forests (de Jong et al. 2006). Similar to state-owned companies in developing countries, state forest enterprises were criticized for mismanagement in the forest sector (de Jong et al. 2006).

As soon as Vietnam became a market-oriented economy, reforms for state forest enterprises initiated. For example, the state forest enterprises must now self-finance their activities as opposed to relying on state budgets. Despite past mismanagement, state forest enterprises continue to undertake forest exploitation, protection, and trade even if there were once implemented in unsustainable ways (Ogle et al. 1999; de Jong et al. 2006)

On the basis of the Forest Protection Law and related legislations, the forest administration is obliged to support forest users with their experts and access to forest resources. This allows the forest administration to influence the interests of the forest user group; in contrast, members of forest user groups are rarely in a position to challenge behaviors or observation regarding the forest administration. Forest administration in practice is concerned with the following professional knowledge:

[26]Decree No.200/2004/ND-CP on "*Arrangement, renovation and development of the state forest enterprises*" aims to strengthen the state effectiveness over the forests. The State directly invests and manages only over the special-used forests, important and very important protection forests, the forests far from the communal residential area those are unable to hand over to community, and rich natural forests.

- *Provide technical guidance to forest protection groups and forest fire prevention groups;*
- *Direct forest owners and the local community in designing plans for forest protection and forest fire prevention.*

Source: Article 09, Chapter II, LA – 05

Such authorities shows their "good faith" to the public through sincere efforts in solving problems—this is a core element of motive-based trust (Tyler and Murphy 2001). Additionally, Krott (2005:118) concluded "*the protection of the forest is traditionally a major task of the State, which pertains to forestry"*. These clearly prove keys for creating trust in the forest administration—trust by local users and communities will support the acceptance of the state forest administration's activities, but the power of the state forest administration remains in dominant information independent from trust.

5.5.1.1. Legitimacy as the basis of dominant information

The legal framework for forestry activities is grounded in various forestry legislation, including the Forest Protection law (the fundamental law for conducting forestry activities), Decree No. 59 by the prime minister of Vietnam, Decree No. 119/2006 by the Vietnamese government, and assorted related documents which define the functions of the forest administration in forest protection, development, and community forestry. As addressed in Decree No. 119 (LA – 05), the forest administration units at various levels function as advisory agencies for the chairman of the people's committee over the implementation of forestry-related activities occurring in the area.

> *"The forest protection agency at the district level has a responsibility to promulgate regulations and policies on forest protection and management, as well as supervise forest product exploitation/utilization, mobilize local people's participation in forest protection/development, encourage forest owners and local communities in the design and implementation of a forest management plan, and push for forest fire prevention and forest protection regulations"*
>
> *Source: Field work summary, LA – 05*

This demonstrates that the forest administration has legal authority over activities related to forests, forestland and forestry. To implement the assigned tasks effectively, negotiations between the forest administration (represented by the forest ranger force at the respective level) and forest users (via the forest user group committee) facilitate the implementation of a community forestry program. Close ties between forest rangers, forest users, and the local community is established through technical support and other assistance in forest practices. The processes of negotiation to carry out forestry practices allow for a reciprocal discussion that lays a foundation of trustworthiness among actors, especially forest rangers and the forest user group committee. *"Compliance can be said to occur when an individual accepts influence from another person or from a group"* (Kelman 1961:6), so recognizing each actor's role in a community forestry network is a key to implementing community forestry.

It could be therefore concluded that: (1) the formal task of the responsible management of a forest provides the forest administration with a role and the ability to dominate information and (2) this dominance can be limited by the open exchange of information. It provides other actors with information they can use to judge by themselves. In this case, power is given up by the forest administration in favor of an open exchange of information.

Across the studied cases, there is no officially documented evidence of an open exchange of information handed over by the forest administration to the forest user group committee; however, observations in the field and interviews with forest user committees confirm that forest users and forest user group committees can manage community forestry operations by themselves. This may be done through a knowledge transfer process by the forest administration, which would include such things such as silvicultural techniques applied in community forest management and setting up a forest fire line (LAs – 31, 41, 70).

5.5.1.2. Technical guidance as dominant information:

In accordance with the assigned tasks, the local forest administration assists its community during the community forestry process, including in such tasks as forest inventory, forest mapping, and setting up a five-year forest management plan. Although local forest users are theoretically the main bodies carrying out these tasks as stipulated in

several legal acts (LAs – 47, 48), they are unable to complete such complicated tasks as they lack the specialized knowledge and ability to comply with currently legal documents. The forest management plan of the local community is therefore set up under the technical assistance of local forest administration staff at the local level. Such staffs include forest rangers, who instruct local forest users in calculating the community forest volume according to Circular No. 38 on Forest Sustainable Management (Las - 58, 59). This includes sample plot formation like data collection and forest volume calculation.

Box 5. 14: Calculating community forest volume in Hoa Binh and Son La

> *As the forests allocated to communities are evergreen broadleaf and semi-deciduous forests, the area of each rectangular (20 x 25m) or round (diameter 12.6 meters) sample plot is 500 square meters. In the sample plots, calculations of diameter at breast height (Dbh) and top height (Hvn) are applied to whole trees; this is the foundation for the forest volume calculation.*
>
> *(Source: Field survey 2013, LA – 59)*

Relying on the calculated results, the "model of desired forest structure" according to Dispatch No. 815 will be applied to community forests as the basis of a forest adjustment structure that ensures sustainable forest development in both quantity and quality. Depending on the forest types and conditions, the model of desired forest structure is designed as follows:

Box 5. 15: Applying of forest-desired structures

> Forest types: 1) *Evergreen forests*; 2) *Semi-deciduous forests*; 3) *Deciduous forests*; and 4) *Forests mixed of tree and bamboo.*
>
> Forest conditions: *1) Forests influenced by timber exploitation; and 2) young restored forests;*
>
> *(Source: Field survey 2013, LA –57)*

A forest condition map is established by the forest administration on the basis of forest types and the calculated forest volume. A map of the forest conditions also aids in

determining the appropriate management objectives of each forest plot corresponding to the real conditions of the region (see below).

Table 5.10: Example of management objectives of community forest

No.	Code	Local Name	Forest status	Area (ha)	Difficulties	Advantages	Management objectives
1	1	ĐồiSuối ngang	Average forest	61,73	- Far from residential area that makes difficulties for control and protection; - Bordering with other villages that causes the forest to be illegal cutting - Lack of capital and technique.	- Less impact of local people to the forest due to far from residential area. - Less impact of cattle due to unsafe terrain. - Only one path to the forest that makes forest management and protection easier. - Fairly good volume that can meet local people's demand. - Richness of non-timber forest products. - Financial support of the project	Timber and Watershed management

(Source: Field survey 2013)

Diameter at breast height is used to classify trees by different diameter groups. By examining the number of trees in each diameter group together with five-year projections for local demand, this amount of trees can compare against a model of the desired forest structure to calculate the number of fellable trees (LAs – 57, 60).

5.5.1.3. Facilitation:

> *"We the forest ranger force are the main forest administration agency accountable for activities related to the forest in the administrated area; This includes: collecting data on forest conditions such as forest state, type, and volume; reporting to the higher Forest Administration agency and district government; and guiding and mobilizing local forest users to participate in*

> *forest protection and development activities such as signing the forest protection commitment and designing local regulation. In addition, we take part in forestland allocation to communities and periodically accompany the forest patrol team on their patrols.*
>
> *For conflicts over the use of forest resources or infringement to the allocated forests, the forest ranger mediates between parties before reporting it to a higher authority. We however stand apart from forestry projects in general, and this community forestry project (KfW7) in particular…"*
>
> *(ISs – 41, 44, 47)*

The above anecdote from the head of Yen Chau District's forest protection and forest rangers illustrates the role of a forest administration facilitator in community forestry. In practice, this facilitation process is normally provided by state agencies in order to involve actors in community forestry practices (Finger and Finger-Stich 2004). Indigenous communities, with their cultural and customary systems concerning forest resource utilization, are entities that should not be outside community forestry practices (McNeely 1995). Facilitating local participation in this way, particularly in forest management and protection, is a key factor contributing to the success of forestry programs (Wells and Brandon 1993).

From the 15 observed cases where allocated community forests are far from the village, the forest ranger force is considered the closest stakeholder to the local community and institutions with a thorough understanding of forests in the region. To fulfill the difficult task of forest protection and development, forest rangers prompt local citizens and institutions (e.g., youth unions, women's associations, veterans' unions, and village party cells) to get involved in forest protection and development through activities like fighting and preventing forest fires, building forest fire lines, planting forests, and undertaking silvicultural operations (LA – 11; ISs – 11, 28, 73, 98). Forest rangers carry out this work on the basis of their assigned tasks, functions, and responsibilities (LAs - 05, 11). This form of practical education accordingly enhances the local community's awareness of forest protection and management; likewise, it assures their active and long-term participation in forest resource management (Tomićević 2005). Here, local communities and forest administrations come

together to define issues and seek solutions for community forests. The forest administration is therefore trusted by the local community, as it facilitates local participation.

5.5.2. Donor and dominant information in the community forestry network

The mismanagement of forest resources during the 80s and 90s has diminished trust in the concept of sustainable forest management as well as the centralized forest management approach. As concluded by Sikor and Apel, "recent forest policies of Vietnam changed in ways that expands community forestry is likely to receive the support of foreign donors" (1998:21). Foreign donors have thus played an important role in making community forestry a reality in Vietnam, a process aided by new forest policies. International funding agencies have strongly influenced Vietnam's forest policies to contribute to natural protection and the improvement of livelihoods (Clement and Amezaga 2009). These donor-aided programs range from bilateral projects (piloted in some districts) to projects at the provincial level, including KfW projects which provide technical and financial support to the local community in order to improve forest conditions and the local inhabitants' lives.

This study has chosen 15 case studies, of which six have international donor involvement. By relying on the diverse functions of the Forestry Development Project in Hoa Binh and Son La, donors gain the trust of actors in community forestry networks, especially in local institutions. KfW's members are the officials appointed by the forest administration at the provincial level under a labor contract; they are in charge of guiding silvicultural practices among forest users in forest plantation activities. KfW's staffs are thus trusted by local forest users and community forest committees.

5.5.2.1. Building alliances as a source of dominant information:

The Forestry Development Project in Hoa Binh and Son La is deployed via a top-down mechanism and structured from the state level (the Forestry Project Management Board under direct management of MARD) to the local level (district project management boards under the management of the Department of Agriculture and Rural Development [DARD]. Hence, temporary coalitions and partnerships are formed to achieve a specific purpose or work towards a given goal. A coalition can bring people from various segments of a

community together to achieve a common goal or to engage in joint activity (Spangler 2003).

> *"The deputy of the district people's committee is normally selected to be the KfW7 executive director of at the district level and bank account holder in order to facilitate deployment and decision-making community forestry processes. The deputy of district people's committee with his political authority and caste will exert a strong influence on the other actors involved in the community forestry network…"*
>
> *Source: Field survey 2012, 2013 (ISs – 5, 6, 67, 68, and 69)*

Through alliances, communication, and the sway of powerful actors over other actors in community forestry, much may be accomplished. Similarity, the chairman or vice chairman of the village people's committee, as KfW7 group leader at the village level, deploys community forestry practices at the local level. The aim of project management boards at different levels is to ensure the coordination of the project and government activities at the respective levels. By building coalitions, the success of the community forestry project is ensured and future risks are minimized based on the involvement of actors in the project process.

5.5.2.2. Policy support as a source of trust:

As confirmed in various studies, donors have strongly influenced policies in general and forest policies in particular in Vietnam (Nam 2002; Sunderlin and Huynh 2005; Poffenberger 2006; Pham et al. 2010). With the goal of enhancing the effectiveness of forestry activities and improving the lives of local inhabitants, policies are formulated in such way as to prioritize and facilitate donor projects over the forestry sector and community development (de Jong et al. 2006). Donors and their representatives therefore have full oversight of the draft formulation for projects in terms of both consultation and input. Donors' policies, strategies, and approaches therefore complicate forest policy formulation further, which leads community forestry programs to expand the results once donors withdraw their financial and technical support (Springate-Baginski et al. 2007). As a result, existing policies produced through negotiations between the forest administration and donors are seen as trustworthy.

5.5.2.3. Capacity development programs as sources of trust:

Through community forestry programs, donors offer various capacity development initiatives to the local communities and other involved actors; these may take the form of a training course, further education, or technical support aiming to improve actors' knowledge and sustainable management of forest resources. This capacity building process helps actors be more self-motivated in implementing community forestry practices. It is thus considered a power-diminishing process via a combination of trust and incentives; "trust" when actors alter their behavior by accepting the donor's unverified information and "incentives" when they motivate actors' actions.

> *"... We instruct local forest users to implement silvicultural operations as stipulated in Decision No.38/QD-BNN, including: holes sized 40x40x40 centimeters and plantation density 1600 to 2000 trees per hectare...".* Statement by KfW7 staff in Thuan Chau district (ISs - 5, 6) (LA - 10).

During the community forestry process, workshops and training courses are organized for foresters, local people, and the involved actors. Such activities improve local capacity and build up the capacity of the forest institutions; they also strengthen the alliance between the forest administration and FUGR through workshops, training sessions, and field practices.

5.5.3. Traditional authority (TA) and trust in community forestry

The traditional leader, normally an elite person among the locals who has the full trust of the community, is openly elected by the local people through a village meeting. This is a process manipulated and influenced by either the central government or donors to affect local forest users and development decisions (Larson 2005). Local elites thus use their status to connect with the project management board and position themselves as the entry point for community forestry at the local level (Devkota 2010). A traditional leader is seen to both link and represent forest users in the community forestry process.

To ensure that the implementation of community forest activities is fruitful as expected, traditional leaders are also chosen to be the leader of the forest user group committee. Because of the prestige associated with the role, the traditional leader and communal patriarch are crucial bodies for mobilizing and encouraging local forest users to participate

in community forest management and comply with community forest operation and local regulations (LA – 21).

5.6. Incentives as a power element

As presented in the theoretical foundation, incentives are a power element and are as such recognized as an important determinant of participatory forest management. Incentives may be seen as preconditions for local communities' participation, although mainly for those groups living in the remote highland areas. They may also be a requirement for forest resource management and development, especially in the context of developing countries (Davies and Johnson 1995; McCarthy 2005). Ostrom et al. have confirmed that donor funding is a dominant type of incentive that motivates actors' participation in forest management via technical assistance, further education, and additional training (2002b). Incentives are thus financial and non-financial offers by providers to obtain expected goals or objectives (Maryudi 2011).

Incentives may be broken down into direct and indirect incentives, where the former involves input into community forestry (e.g., cash payments for labor, grants, subsidies, loans, and in kind payments like vehicles, equipment, fertilizers, and seedlings) and the latter focuses on the provision of technical assistance or services which help improve actors' capacity to implement community forestry practices (Hellin and Schrader 2003; Krott 2005). Women also play a determining role in the success of community forestry programs (Gupte 2004; Poffenberger 2006; Charnley and Poe 2007; Pokharel et al. 2007). Many community forestry programs (including pilot projects) have been running throughout Vietnam, but their achieved results were not extended and maintained after the projects' completion (Nam 2002; Lam 2012).

Although communities have been involved in the community forestry process, their superficial participation is only for the benefit of a project's approval. Forest income has not yet made tangible economic sense to local forest users because they have not organized themselves into well-defined community forestry groups (Ascher 1995). Local people are thus manipulated by the forest administration and donors through direct and indirect incentives to actively participate in community forestry practices. "[A lack] of

financial planning results in a low efficiency of projects*"* (Weiss 2000:7), meaning that in the course of forest management, economic incentives would promote the interests of the beneficiaries in sustainable forest management.

The following sections examine incentives provided by the forest administration to a community forest user group, as well as through a donor to the forest administration and a forest user group.

5.6.1. Forest administration and incentives in community forestry

As discussed earlier, the forest ranger force undertakes forest management and protection at the communal level. The forest administration thus plays a significant role in local communities' initiatives in forest management and protection. In Vietnam, funding for community forestry is raised as follows: 1) through the state budget, which mostly pays for forest protection and tending; 2) through donors' support in the project areas; 3) through contributions by forest users and local inhabitants; and 4) through income generated from the selling of confiscated forest products by the forest user group committee.

As stipulated in the current forestry related legislation (LAs – 02, 05, 11, 36, 40, see Appendix 1), the forest administration assists the local authority in the promulgation and execution of legal documents on forests and forestry; likewise, it supports local forest users in terms of silvicultural and technical assistance and training, e.g., in thinning, cutting, and forest fire prevention. In addition to the aforementioned incentives, an unofficial cash incentive was observed during the field survey in some community forests located next to or within natural reserved areas. This pays for the forest patrolmen and village staff directly contracted with district forest protection.

- The forest administration determines the number of trees to be cut in a community forest; tree cutting must comply with the desired forest structure model and forest volume conditions (LAs – 57, 59, 60). Moreover, this number is also estimated by the timber demands of the local community as in the example given below.
Based on the local community's demands as compared with the real amount of trees in the forest, the forest administration uses diameter groups to suggest the number of trees that may be felled per year and in five years. For instance, if the number of trees in a diameter group of 8 – 16 cm is less than the defined amount in the desired forest model, these trees could not be extracted.

- For fuel wood, it was discovered in the fieldwork that the monthly average demand of fuel wood per household is approximately one cubic meter. This amount considerably impacts the forests. The forest administration thus advises the locals to only collect dry and broken trees from the garden or the planted forest.
- Bamboo shoots and NTFPs are a popular product for ethnic minorities in the highland areas of Vietnam. However, to secure the forest protection and development tasks, the forest administration advises a correlated cutting rate to the local community that is clearly defined in the local regulations.

> For example, a "community can collect bamboo shoot at the end of crop and chop down the old trees for other purposes. Cutting rate should not be over 30 percent in total of trees per clump. To the other sub-forest products such as leaf, mushroom, fruit, and medicinal plant, local people are allowed to collect, but not chop down mother trees." (LA – 59, 60).

- In addition to technical incentives by the forest administration, local forest users also get paid for other forestry activities such as tending them, protecting them, and fighting forest fires as addressed in legislative documents (LA – 10, 16, 53).

> *"… A contracted salary rate of forest protection and natural forest-assisted regeneration is Vnd 200,000 (approx. 8 Euros) per hectare per year. The details of this contracted rate are decided by Ministry and the provincial people's committee under their respective managements…"*

Source: Field survey 2013, (LAs – 16, 53)

However, forest administration at the local level in specific cases can make the local community illegally tolerant of incentives, which allow local carpenters to collect and process broken trees in the natural forest without the express permission of the district people's committee (ISs – 101, 104, and 105). "…As legal procedure, local carpenters who want to run their joiner's workshop must submit the application form to the forest administration and district people's committee and get the approval to use wood collected from the natural forest. However, local carpenters just draw up an application to the local authority and forest administration at the local level. This process is a negotiation among local forest users, the forest administration, and the local authority," said one forest administration officer in the Bo community forest.

Table 5.11: Calculation of tree cuts in community forest of Hoa Binh province

Category	Diameter group (cm)	Demand	Demand per year	Maintenance	Total demand per year	Total demand in 5 year	Note
		A	B	C	D	E	
Housing	8 – 16	60	120		120	600	2 new houses per year
	24 – 32	45	90		90	450	
	32 – 40	63	126		126	630	
Cage	8 – 16	0	0	80	80	400	Only repair
	16 – 24	0	0	40	40	200	
Fuel wood		0	0	0	0	0	Collected from broken down trees, garden, and planted forest
Fencing		0	0	0	0	0	Using bamboo
Wood products		0	0	0	0	0	Planted forest
Coffin	>48	1	1		1	5	3 coffins per year

(Source: field survey 2013, 5-year management plans in Hoa Binh province)

Table 5.12: Incentives of Forest Administration to forest user group committee

Forms of incentives	**No. of observed cases**
1. Financial support - Small cash payment for members of forest patrol team while doing forest patrol, and contracted staff at village level*	3
2. Technical support - Silvicultural operation and harvesting - Forest plantation - Setting up forest management plan (annual and 5 years) - Fire line construction - Local regulation	 15 15 15 15 15
3. Material support - Legal documents of forest and forestry; brochures	 15

**The payment is withdrawn from the district forest protection's fund*

Source: Field survey 2012, 2013, and IS – 95, 96, 108, and 109

The above table shows the financial, technical, and material incentives used by the forest administration to sway forest users. This information was collected through observation, secondary documents, and formal and informal interviews with actors. In three of the observed cases, the Forest Administration offered financial support to the forest patrol team and a salary to forest ranger staff without the involvement of international donors (IS – 95). This payment originated from the operational capital of the district forest protection and natural reserved area.

> *"… The forest patrol team is established at hamlet level and under the direction of the leader of the forest user group committee. Forest patrol operations are executed monthly with the participation of the local forest ranger. We pay '20,000 Vietnamese dong' (approx. 80 Cents) for attendance in each forest patrol. To ensure the success of forest protection, we sign a contract with a local inhabitant (called as local contracted forest ranger*) to detect infringement on the community forest. The contracted staff gets paid directly by the district forest protection…"*

Source: Field survey 2013, ISs – 95, 104, 105, and 109

** Note: the nominee often has family ties with the traditional authority and is the secretary of the youth union.*

The above anecdote illustrates how the forest administration mostly provides incentives in terms of technical assistance and materials to the local forest users on the basis of approved functions and responsibilities as stipulated in law (LAs - 05, 41). Therefore, a forest ranger has insignificant financial incentive to offer the actors in a community forestry network. However, even a very small payment promotes the effectiveness of forest management and protection at the local level by motivating local forest users' participation in community forest practices. Moreover, local forest users are also paid from forest tending, protection, and fire-fighting activities as addressed in the legislative documents (LAs – 10, 16, 53).

For the above analyses, technical services in forms of training and support are the most common kinds of incentives offered by Forest Administration to local forest users and forest user group committee. Through field observations, documents, and interviews, For

the above analysis, technical services in the form of training and support are the most common kinds of incentives offered by a forest administration to local forest users and the forest user group committee. Through field observations, documents, and interviews, the forest administration's technical services are often required to determine the number of fellable trees, mark trees, make forest fire lines, and implement silvicultural operations. As discussed in the previous section, the nature of technical support is to reduce the impact of local forest users by limiting usage rights and controlling resource access through local regulations and forest management plans. The expected objectives of the forest administration are to protect the forest and improve forest conditions in accordance with the 5-Million-Hectare program by the Vietnamese Government (LA – 39).

5.6.2. Donors and forms of incentives in community forestry

Over the years, foreign aid has contributed to the socio-economic development of Vietnam. Although investment in the forestry sector makes up only a small portion in comparison with the total investment, the forestry sector has remained one of the priority fields for foreign development aid[27]. Over the years, foreign aid has contributed to the socio-economic development of Vietnam. Although investment in the forestry sector makes up only a small portion in comparison with the total investment, the forestry sector has remained one of the priority fields for foreign development aid[28]. Funds from Official Development Assistants (ODA) are a significant source of capital for forest rehabilitation through afforestation and community forestry (de Jong et al. 2006); such ODAs include the WFP (World Food Program), SIDA (Swedish International Development Assistance), KfW (German Development Bank), and JBIC (Japanese Bank for International Cooperation) among others. Foreign investment contributed a considerable portion of the total investment in the Vietnamese forestry sector from 1998 - 2005 (de Jong et al. 2006). International aid agencies undeniably play an increasing role in forest rehabilitation in Vietnam, even though the achieved results do not match the amount of donor support (Lang 2002). Vietnam's Forestry Action Plan has also clearly stated the role of foreign aid

[27] Annually, agriculture and rural development attract about 37 foreign investment projects with a total investment of 179 million USD, of which investment into forestry sector makes up 3% (MARD 2012).

[28] Annually, agriculture and rural development attract about 37 foreign investment projects with a total investment of 179 million USD, of which investment in the forestry sector makes up 3% (MARD 2012).

agencies in fulfilling its forestry programs (e.g., the 5 Million Hectare Reforestation Program) (de Jong et al. 2006; Ngai 2009).

Table 5.13: Five Million Hectare Reforestation Program (MHRP) investments

(Unit: Million VND)

Capital Source	Total
Total	5,473,290
State budget	3,317,848
Local budget	593,952
Investment credit	1,190,483
ODA	371,077

Source: (de Jong et al. 2006)

By looking at international support to the forestry sector in Vietnam, and in particular KfW7 support during our field survey in 2012 and 2013, the various types of incentives supporting actors through forestry programs are organized in the following table.

Table 5.14: Donors' incentives to actors in the forestry programs

Actors	**Incentives**
Forest Administration	**** Financial support for***: - Organizing workshops and conferences - Salary to the staffs of project management board; - Office equipment (computer, printer) - Study scholarships - Travel grant and allowances for within and abroad study tour, training, and visits - Vehicles (motor)
Forest User Group Committee	**** Financial support for***: - Plantation: seedling purchasing, transportation - Remuneration of forest plantation and tend - Study tour, workshops, and training fees **** Technical support and training***: - Silvicultural operations - Forest inventory - Account keeping

	- Designing working plan - Boundary mapping **** Material support***: - Equipment for FUGR's office: communication devices; chairs; and tables for working and meeting - Peeling machine - Extension materials: brochures, calendar, and others.

Source: Field survey 2012, 2013; (Lang 2002; Anonymous-2 2006)

Along with the offered facilitation offered, donors represented by project management boards at respective levels provided forest user groups with various technical assistance and material support to improve the local people's capacity regarding community forest practices. Technical assistance is an effective means of knowledge transfer and capacity development to the local community (Byron 1997). Some of the studied cases with international donor involvement have provided technical support through private consultants, governmental foresters, or their own experts. Such incentives actively encourage local people's participation through the dissemination of significant information supporting their respective community forestry activities.

Box 5. 16: Equipment supports of KfW project

… We are equipped with a shell-corn and pluck-rice machine by KfW7. They are very important and necessary, because maize and paddy are the main food crops which are closely connected to our life. We appoint a person who understands machinery to be in charge of taking care and managing them. All villagers who want to use these machines have to bring their own fuel and pay to warden an amount of money as a compensation fee. A part of that money is used for periodically repairing and maintaining machines.

(Source: IS – 15)

Technical assistance, including extension and training materials, is often seen as a "change agent" that enhances the institutional capacity of the forest user groups and involved actors in managing forests and community forestry. In addition to machinery, products necessary to the operation of a community forest committee are provided, including chairs, tables, and loudspeakers as shown in the picture.

Photo 5.1: Supports of KfW project in Hon CF, Son La province

Moreover, training courses and workshops on the implementation of community forestry practices are held by donors on subjects such as: participatory forest inventory, timber assessment, fuel wood/the NTFP demands of a community, designing beneficial mechanisms, etc.

Objectives: enhance and improve knowledge of forest resource management for every actor and local community. Through training and working in the field, trainees are taught technical skills in resource analysis and assessment, as well as the silvicultural methods they'll need to apply to community forests in five years.

Subject: Community forest committee, forest patrol team, forest users

Source: field survey 2012[29]

To ensure the operation of the community forest committee, members and the forest patrol team are paid by the donor as summarized in the table below.

[29] Training handbook on ''designing the forest management plan'' by KfW7, July 2012

Table 5.15: Salary paid for community forest committee's members

Community forest committee	Number	Salary per month	
		Vnd	Euro
- Head of committee	1	Vnd250,000	10
- Accountant	1	Vnd150,000	6
- Cashier	1	Vnd170,000	7
Forest patrol team			
- Team leader	1	Vnd270,000	11
- Members	7	Vnd1,750,000	72

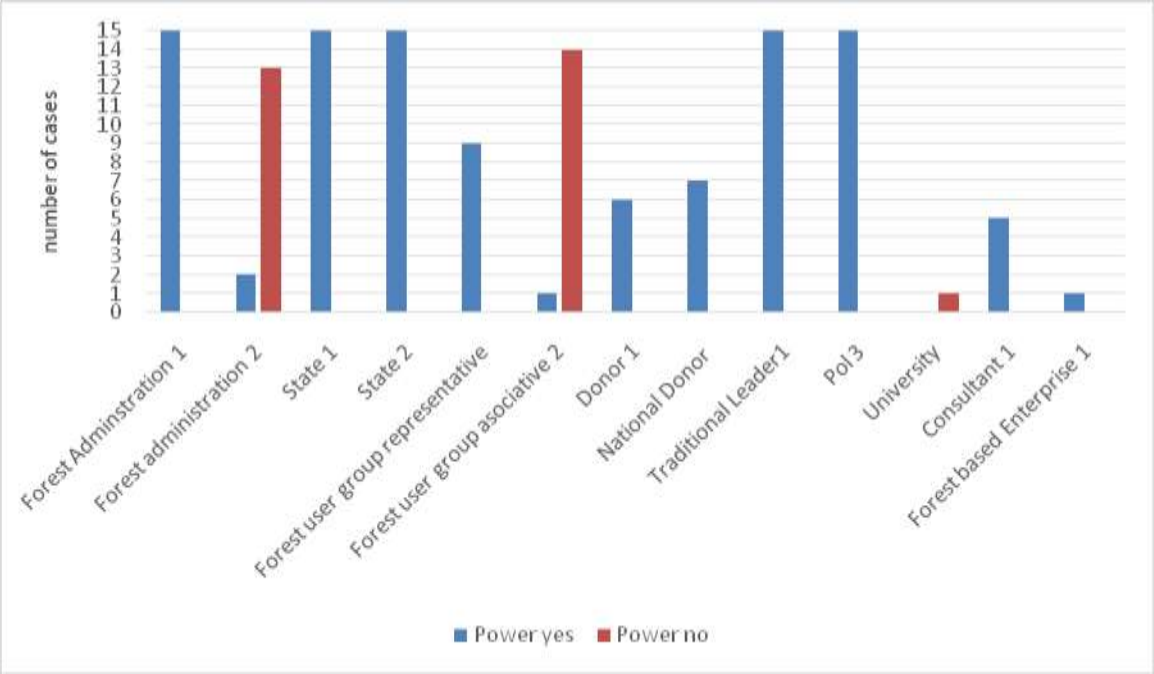
Source: field survey 2012

5.7. Power and the power elements of powerful actors

As previously analyzed in the "Research Methodology" chapter, further quantitative and qualitative analysis to identify the powerful relevant actors in community forestry practices and their power elements was completed (see Appendix 7). In order to test whether the powerful relevant actors drive the outcomes of community forestry, this research focuses only on the relevant actors identified as part of a group of powerful actors presented in Appendix 7 and Figure 5.4. There, the results of the power analysis of the relevant actors across all 15 cases can be found.

In Figure 5.4, we see that "forest administrations," "district governments," and "local authorities" appear as part of the group of powerful relevant actors to an extent of 100%. International donors also appear in this group in those cases where international donors were involved. Other relevant actors, such as forest-based enterprises and associations, only appear in one case; these are sorted into the group of less powerful relevant actors. Appearing in more than 11 cases, "forest user group representatives" are classified as powerful relevant actors.

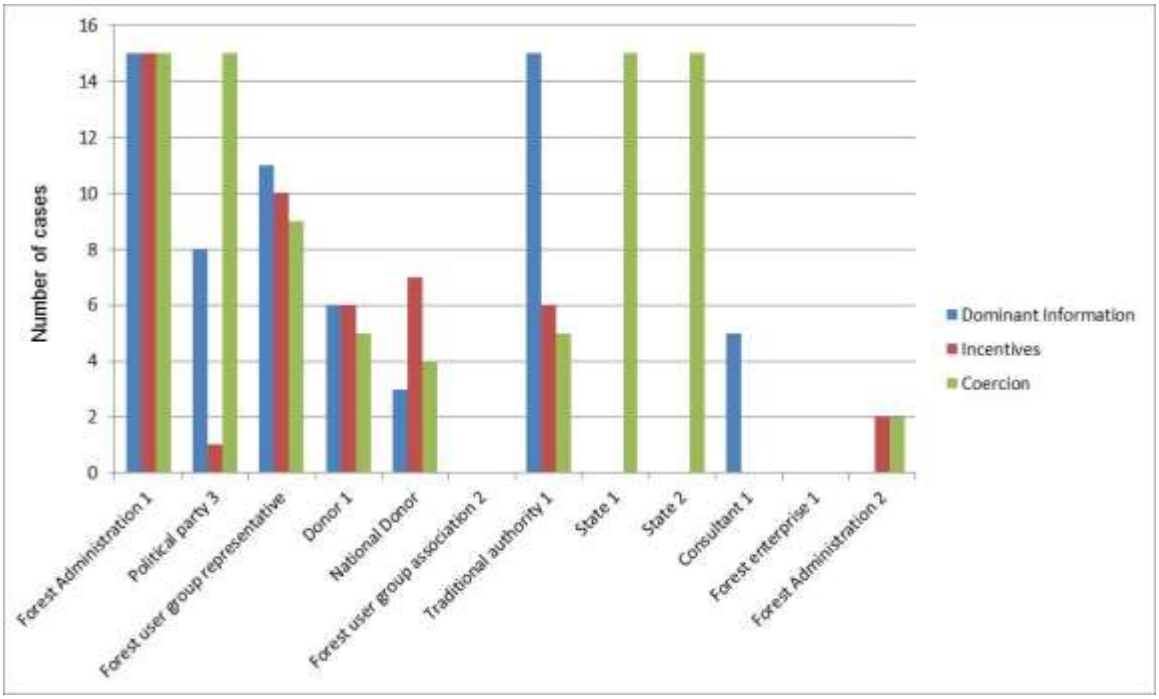
Figure 5.4: Powerful relevant actors' power status in Vietnam



The results of the quantitative calculation of the power elements of relevant actors are summarized in Figure 5.5. Here, we see the elements on which the relevant actors build their power in order to influence the community forestry process according to their own interests. Across all cases, it is clear that forest administrations build their power on a mixture of all three power elements (dominant information, incentives, and coercion). This is in keeping with the analysis of forest administrations' power features in the previous chapter, as these are state agencies reporting to the state government over forestry activities at the local level. Interestingly, traditional authorities, in company with community forest committees, gain their power through dominant information in most cases. Since traditional authorities are the elites and are as such respected by local forest users, the communities' forest users accept their information and advice without verifying it. Nonetheless, in half the cases, community forest committees based their power on coercion and incentives. The community forest committees in these cases wield these effectively in community forestry activities. For example, the head of community forest committees (who is also a traditional authority) has the right to arrest offenders over community forests; this right is not defined in legal documents, but rather approved by the local community through local regulation.

Furthermore, political actors achieve their power status through coercive power elements. Although these actors are not involved in community forestry activities, they hold veto rights over and make final decisions regarding the issues concerning community forestry at respective levels as stipulated in legal documents (LAs – 03, 09, 26, 30).

Figure 5.5: Power elements of the powerful relevant actors



The results in Figure 5.4 and 5.5 show that the powerful relevant actors in community forestry could be identified through applying the theoretical concept introduced by the Community Forestry Working Group (Devkota 2010; Maryudi et al. 2012; Krott et al. 2013; Schusser 2013; Yufanyi Movuh 2013; Schusser et al. 2015). Schusser et al. (2013) additionally confirmed that the results support similar findings by Jones and Mosimane (2000) presented in "*Empowering communities to manage natural resources: Case studies from Southern Africa"* (Steenkamp and Urh 2000), in which a public administration (e.g., the local government), traditional authority, community user group representative, and forest enterprise were also identified. The presence of such political actors (e.g., forest administrations, district government, local government unit, and donor) is evidence of the role state orientation plays over the forestry sector and community forestry programs.

Chapter 6: Evaluation of Community Forestry Outcome

6.1. Social outcome of community forestry

As discussed in Chapter 5, the social outcomes of community forestry in this research are assessed on the empowerment of direct forest users (or individual forest users) and measured by their ability to: 1) access information on forests and forestry; 2) access and participate in the decision-making process; and 3) access and tenure rights over forests and forestland. Social outcomes are classified based on whether users have low-, mid-, or high-level access.

6.1.1. Forest use and access to tenure rights

As previously mentioned, securing tenure rights to the forest and forested land is a foundation for forest protection and development, with the goal of genuine empowerment of direct forest users. In community forestry in Vietnam, state-centered policies allowed the state to control forestland and forest resources, giving only limited access to forest users, households, and communities (Ngai 2009; Tình and Nghị 2012) (LA – 54). From 1976 to1992, forest cover in Vietnam was reduced to 28% due to the mismanagement of state forest enterprises (Sikor 1998, 2001; To et al. 2014). The passing of two acts—the Land Law and the Forest Protection and Development Law (LAs - 02, 38)—was the cornerstone of the devolution of authority over forest management to individuals, families, households, and communities (Sikor 2001), as opposed to state forest enterprises at the central and provincial levels. This validates how access to tenure rights over forests and forest resources is of fundamental significance in any community forestry program. The passing of these laws marks the inception of community forestry in the context of state control over forested land and forest resources in Vietnam.

However, the Land Law and subsequent legal documents limited rights at the local level. The state handed over rights of land classification and approval over land-use planning to the district, provincial, and central governments, but these could only be used for forestry purposes if the land was classified as forestry land.

Box 6. 1: Jurisdiction of making decision and approval of land-use planning

- National Assembly decides on land-use planning of the whole country;

- Government ratifies the land-use planning of provinces and cities under the central government;

- People's Committee of provinces and cities under the central government approve the land-use planning of the directly lower administrative units;

- People's Committee at district, town, and city under the province levels approve the land-use planning of commune

(Source: Field survey 2012, 2013; LA – 38)

Subsequent decrees and instructions mandated that natural forests and forested land in important watersheds not be allocated to households, but rather to communities, districts, state forest enterprises, or forest management boards. These entities in turn would sign protection contracts with individuals and households with small payments for protection activities and articles restricting their utilization of the forests.

Table 6.1: Access matrix of forest users over the forest and forest resources

Forest uses	Prior practice	Community forest practices			Change of access
		Free access	Limited permit	Ban	
* Agro-Forestry Practices					
Seasonal food crops	Free		*		-
* None Timber Forest products					
- Wild fodders	Free		*		-
- Fuel wood	Free	*			0
- Bamboo shoot	Free		*		-
- Medicinal plants	Free		*		-
- others	Free		*		-
* Hunting	Widespread			*	-
* Grazing	Free		*	(*)	+/-
* Logging					
- Timber	Controlled			*	-
- Branches for fuel	Free		*		-

Notes: (-) means decrease; (0) means no change; (+/-) means insignificant change

(Source: field survey 2012, 2013; LA – 20, 21)

In the community forests, forest users must comply with local regulations regarding forest protection and development that restrict the use of forest resources. Any minor uses of or access to community forests by forest users must be approved by the traditional authority and forest user group committee.

Table 6.2: Restricted activities in community forest

Activities	Restrictions	Cases
Slash and burn	Only cultivating in the planned areas, but must follow technical instruction of forest administration.	15
Fire use	Prohibit using fire in the community forest to collect honey, and individual purposes	15
Forest products	Individual must apply and get approval of community forest committee	15
Timber	Timber exploitation is only allowed in dry season and ensured the correctness of species and quantity as approved plan	9
Non Timber Forest Products	Only harvest for household demand and comply with approved quantity and schedules	15
Hunting	Stringently prohibit wildlife hunting in community forests, except mice	15

(Source: field survey 2012, 2013; LA – 21)

To ensure the further legal use of forests, various ties through commitments and regulations are signed between the forest administration and households/the forest user group committee (see Table 6.2). These documents are the guidelines that drive the utilization of the forest by local forest users and ensure forest protection and development tasks. To involve local forest users in the process of participation, strategies are adapted to fit the local communities' conditions. The adaptations are mostly in the daily activities of the local community, such as in the collection of fuel wood/NTFPs, farming, and slash-and-burn agriculture.

Table 6.3: Forest protection ensured by rules and regulations

No.	I_Dnr involvement	Community forest	Rules and Regulations			Field observation	
			Commitments *	Group regulations	Local regulations	Organized patrols	Joint controls
1	YES	Sang	+	+	+	+	-
2		Hon	+	+	+	+	
3		Chen	+	+	+	+	
4		Cao Da	+	+	+	+	
5		A Ma	+	+	+	+	
6		San	+	+	+	+	
7	NO	Coc Lac	+	0	+	-	
8		Cang	+		+		
9		Ngoang	+		+		
10		Na Pan	+		+		
11		Mu	+		+		
12		Vo Khang	+		+		
13		Mo	+		+		
14		Bac Hung	+		+	+	
15		Bo	+		+	+	+

(Source: field survey 2012, 2013)

Notes: (+) existed; (0) not existed; (-) not observed

** Commitments are mainly signed between forest ranger force and local people and local institutions which focus on forest fire prevention, wildlife hunting, and timber logging.*

From the 15 case studies, we have found that commitments and local regulations are available in all cases with and without international donor involvement. These rules and regulations are seen as binding documents driving local people's activities according to the forest protection strategy. In addition to these commitments and local regulations, the regulations of community forest protection and development are made by the joint involvement of the community forest committee, forest users under the assistance of the

forest administration, and donors (in cases of international donor involvement). Both group and local regulations stipulate that "the forest patrol team receives 30% of the fines received from forest users caught violating these regulations" (ISs – 15, 24, 28, 56, see Appendix 3).

"*By engaging the local people in rules and regulations, a number of infringements of forest protection regulations have been reduced in the region*" said by the head of Yen Chau district forest protection section (IS – 41). However, infringements of the forest still occur, often by relevant agents or local forest users. The main transgressions are in illegal timber harvesting, slash and burn, and hunting as shown in the photos and Table 6.4.

Photo 6.1: Illegal timber cuts in the community forests

(Source: field survey 2012)

Table 6.4: Infringement cases of the community forests

No.	Community forest	Timber cuts	Slash and burn	NTFP collection	Hunting	Notes
1	Mu CF	+				Direct forest users
2	Vo Khang CF				0	
3	Mo CF		+	0		Direct forest users
4	San CF	0			+	
5	Bac Hung CF		0			
6	Bo CF	+		+	0	
7	Sang CF	+	+		+	Direct forest users
8	Hon CF			+		External forest users
9	Chen CF	0	+	0	0	

No.	Community forest	Timber cuts	Slash and burn	NTFP collection	Hunting	Notes
10	Cao Da CF		+			
11	A Ma CF	+	+			Direct forest users
12	Coc Lac CF	0	0			
13	Cang CF					
14	Ngoang CF	+	+			Direct and external users
15	Na Pan CF	+	+			External forest users

(Source: field survey 2012, 2013)

Notes: (+) happened; (0) not happened

Illegal timber harvesting is the common infringement happening in most observed cases. The forest administrations of Son La province has stated that "The f*orest ranger force itself is unable to fulfill the assigned tasks due to limitations of human resources. A Forest patrol is carried out by forest rangers at the commune level in coordination with the community forest patrol team twice per month" (LAs – 7, 8, 39, 40, 41). However,* community forest committees together with an unarmed forest patrol team are unable to prevent external infringements, and especially illegal external loggers.

"Members of the community forest committee are paid from the fines for infringements and the community fund paid into by all local citizens. The forest patrol team only gets paid for those working days in which they patrol the forest" (IS – 36).

However, the incentives to the community forest committee and forest patrol team are limited, especially when compared to their responsibilities. Moreover, even though local regulations are set to prevent both local and external forest users' infringement of the community forest, the committee and forest patrol team confess that the rules are less effective when applied to external users.

In addition to illegal timber cuts, local forest users sporadically carry out non-timber forest collection, slash-and-burn agriculture, and cultivation in the allocated forests. "*Although slash and burn is not allowed in the allocated forests, it still occur due to the traditional customs of the local community. Thus we must allow this activity as a concession to the local people to reduce impacts to the community forest and encourage local communities' participation in forest protection task" (ISs – 39, 65, and 66).* Evidence observed in the field

once again suggests that the forest administration will be unable to control the entire community forest.

The studied cases strongly indicate that although formal access has slightly improved as compared with the previous stage, actual access by direct forest users has declined considerably. Instead of directly controlling forest users' activities, the forest administration and other relevant actors pass responsibility for controlling access to the community forest committee, led by the village patriarch. This empowerment of the community forest committee means that forest users are not allowed access to the community forest without the committees' express permission.

6.1.2. Access to the decision-making process

As the definition of community forestry itself points out, the field involves a participatory approach of local forest users in forest protection and management. This participation is referred to not only as a forest activity, but also as a decision-making process regarding the forests. It in theory aims to promote initiative and control among forest users regarding their community forests by negotiating their interests and needs, from which they expect to improve their living conditions. Legally, the role of direct forest users participating in the decision-making process of community forestry can be described as follows.

Table 6.5: The formal role of forest users in the decision-making process of community forestry

- *Community forest management is a type of forest management in which the local community participates as forest owner in activities like:* ***forest land allocation****,* ***forest management planning****, and* ***implementation****; (Article 3,* Decision No. 106/2006/QD-BNN on ***"Guidelines for Community Forest Management at hamlet level"***, issued on Nov 27th 2006 by MARD*).*
- *The local community may benefit from forest products including timber and non-timber products extracted from the allocated forests. However, this exploitation must comply with the regulations of the five-year forest management plan as clearly stipulated in Items 2, 3, 4 and 5 of Article 14 and Item 3 of Article 15 of the guidelines (Article 19,* Decision No. 106/2006/QD-BNN on ***"Guidelines for Community Forest Management at hamlet level"***, issued on Nov 27th 2006 by MARD*).*

The above terms provide and strengthen legal forest users' role concerning the decision-making process of the community forest; however, this process is still impossible to local forest users. The challenge here is how direct forest users make decisions regarding the community forest. To implement community forestry, particularly in under-developed countries like Vietnam, there is a large difference between what is expected in the formal context and what things look like in practice. Through the 15 case studies, the extent to which forest users have access to decision-making over the forests does not significantly diverge from the observed models. Indeed, their participation is a means of supporting the pre-defined forestry tasks of the forest administration and relevant actors.

Table 6.6: Access to decision-making process of forest users

<table>
<tr><th>Community forests</th><th>Forest land allocation</th><th>Forest planning</th><th>Forest protection</th><th>Forest uses</th></tr>
<tr><td>Mu CF</td><td rowspan="6">Inaccessible by forest users</td><td rowspan="5">Forest users involved in preparing necessary data; plans set up by forest administration or other governmental agencies</td><td rowspan="6">Forest users encouraged on activities of improving forest conditions (assisted regeneration) and forest security</td><td rowspan="5">- Timber defined by forest administration;
- NTFPs collected for subsistence;</td></tr>
<tr><td>Vo Khang CF</td></tr>
<tr><td>Mo CF</td></tr>
<tr><td>San CF</td></tr>
<tr><td>Bac Hung CF</td></tr>
<tr><td>Bo CF</td><td>Inaccessible by forest users</td><td>Defined by forest administration</td></tr>
<tr><td>Sang CF</td><td rowspan="5">Forest users involved in determining forest border</td><td rowspan="5">Forest users involved in giving needs from forest; plans prepared by Donor, forest administration, and consultant</td><td rowspan="5">Forest users encouraged on activities of forest protection and guided to select trees for specific purposes</td><td rowspan="9">- Timber defined by forest administration;
- NTFPs collected for subsistence;</td></tr>
<tr><td>Hon CF</td></tr>
<tr><td>Chen CF</td></tr>
<tr><td>Cao Da CF</td></tr>
<tr><td>A Ma CF</td></tr>
<tr><td>Coc Lac CF</td><td rowspan="4">Inaccessible by forest users</td><td rowspan="4">Inaccessible by forest users</td><td rowspan="4">Forest users encouraged on forest protection activities</td></tr>
<tr><td>Cang CF</td></tr>
<tr><td>Ngoang CF</td></tr>
<tr><td>Na Pan CF</td></tr>
</table>

(Source: Field survey 2012, 2013; own description)

forest management plans. However, in practice, such participation does not occur, as the activities of forest users are manipulated by forest administration to ensure the success of forest management tasks. During this process, the forest administration defines the main activities in the community forests; these may include thinning, harvesting, collecting species, and choosing which species to plant. In the four cases in Yen Chau district, forest users' participation in community forestry was very limited; here, the district government does not allow local users to cut down trees, even in the planted forests. "We have not approved any applications to fell trees in the last three years," said the head of the district agriculture department of Yen Chau district without giving any further explanation (ISs – 42, 43).

In the five community forests in Sang, Hon, Chen, Cao Da, and A Ma, forest users are allowed to cultivate agricultural crops under young, planted (unclosed) forests to supply their short-term food demands. During the fieldwork, the forest administration staff and committees coordinated to execute plans that would allow forest users to help choose which tree species would be planted, although of course the final decision was at the discretion of the forest administration and international donor. In these project areas, forest users sign an afforestation contract with the management board of the Forest Development Project in Hoa Binh and Son La (KfW7). Through the terms of the contract, forest users could select their preferred species of economic value on the suggestion of the project's experts and forest administration. Nonetheless, KfW7 staff at the district level still decides on silvicultural operations and harvest timelines.

Overall, forest users in the 15 cases have insignificant access to the decision-making procedures for their respective community forests. Their access to this process is limited to merely participating in forest protection and management activities to ensure the forest administration's tasks are completed at the local level. This limits the benefits to forest users, as will be evaluated later.

6.1.3. Access to important information on the forest

As previously discussed, an important feature of empowerment is the forest users' possession of important information regarding the forests (Maryudi 2011); too often they are kept uninformed about major topics in forestry and forest resources. Evidence

observed across the 15 case studies clearly proves that much of important knowledge on forests is inaccessible to forest users.

In regards to the planted and community forests that forest users manage and utilize, the forest administration strongly controls information regarding silvicultural operations and the number of trees extracted from forests as calculated in the annual and five-year forest management plans. *"Forest users are unable to make annual or* five-*year forest management plans, including silvicultural operations and technical standards applied to the forests. Therefore, in practice, forest rangers at* the *local level or forest administration staff help them design these" (IS – 96).* Due to the lack of information on the price of timber and non-timber forest products, forest users sell their products to dealers at lower prices than they could fetch in the market.

Across all 15 case studies, local forest users have no idea how community forestry works and why they need to do it. *"…We do not know what community forestry is. Simply, we just comply with what the local authority and forest administration ask. Moreover, we get extra income through participating in community forest practices*," said the traditional authority of Hon village (IS – 15). In other words, local forest users passively acquire information and knowledge concerning forestry and the value of forest products.

6.2. Economic outcomes of community forestry

Community forestry is seen as a key to alleviating poverty and improving the lives of the rural poor (Gilmour et al. 2004; Hobley 2007; Larson and Ribot 2007), especially for ethnic minorities living in the highland and mountainous regions of Vietnam (Nam 2002; Sunderlin and Huynh 2005; Sunderlin 2006). Studies on the subject have shown that economic goals are the key outcomes of community forestry in order to involve local forest users in forest management and protection.

6.2.1. Forest products and food crops from forestry land

The evaluation and analysis of the outcomes of community forestry have demonstrated that forest end users directly benefit from the forests, forest activities, and activities on forested land. In 15 cases across two provinces, the cultivation of food crops (maize, dry-

rice, and cassava) mainly occurs on forestry land because of the lack of agricultural land. This cultivation might be either under the forest canopy or between forest compartments (i.e., an agro-forestry model). These models have *de facto* existed and been closely connected to the local people's lives for a long time. Studies make clear that local forest users can earn more profit by using agro-forestry models, which in turn can provide them more opportunity to access the forests (Angelsen and Kaimowitz 2004). Agro-forestry models applied in the highlands can reduce deforestation on the one hand and also meet the basic needs of local forest users on the other (Angelsen and Kaimowitz 2004; Maryudi 2011). In the 15 case studies, local forest users are permitted to cultivate agricultural crops under planted forests while the canopy remains open.

Table 6.7: Access on forestry land for agricultural cultivation

Province	Duration	Right of access	Note
Hoa Binh	During forest establishment	Access provided only on planted forests allocated to forest users	Cultivated duration depends on the term of forestland allocation
Son La	During forest establishment	Access provided only on planted forests allocated to forest users	

(Source: field survey 2012, 2013)

In many cases, it was observed that the forests and forestland allocated to forest users were mostly poor forests, or else forests restored after clear cutting or slash and burn. To foster the process of greening the forest, the forest administration and agencies pay reforestation, protection, and tending wages to forest users who participate in forest protection activities through a binding contract. By signing the contract, forest users have the legal right to extract sub-forest products from the natural forest for subsistence, such as bamboo shoots, mushrooms, fuel wood, etc. Across these cases, the interest of forest users in their forests and forested land varied depending on the factors closely associated with forest conditions, forest soil, and the distance to the forest.

We also found that there has been some competition between forest users with forested land vs. those with agricultural land, especially for wet-rice land. Forest users expect

higher yields of agricultural crops, particularly corn, which produces higher profits as compared with forest products.

"…We expect to be allowed to plant maize on the forestland, the cash income of which is much higher than that of forest products. It is estimated that the net income from one hectare of maize is about Vnd 21 million per year (approx. 800 Euros). This year, we are processing a case of clearing land in the community forest done by local forest users. The offender is fined Vnd 18 million…" (IS – 55)

Photo 6.2: Corn cultivated on forestry land next to community forest

(Source: field survey 2012, 2013)

Table 6.8: Deforestation for farming in Na Pan Community forest

(Area in hectare)

Forests	Total		2010		2011		2012	
	No.	Area	No.	Area	No.	Area	No.	Area
	309	15.61	132	5.74	57	3.16	120	6.71
Community forest	90	4.92	31	1.51	15	0.81	44	2.60
Allocated forest	219	10.69	101	4.23	42	2.35	76	4.11

(Source: field survey 2012, 2013)

In a total of 309 cases of infringement, most offenders were from poor families seeking to clear forests for agricultural land; many cases indicated a high demand for crops, especially corn. In nine cases without international donor involvement (five in Hoa Binh and four in Son La), local forest users and even community forest committees were unconcerned about community forestry, as their allocated forests are poor and located very far away. These forests are on limestone soil and planned as protection forests, which is why agricultural activities are limited or prohibited by the forest administration. Users may, however collect forest products (with the exception of tinder) for subsistence.

In the six cases where an international donor was invested, forest users were enthusiastic about participating in community forestry practices. However, this was not for the activities themselves, but rather for the economic and technological gains they made from the project. Moreover, forest users participating in community forestry projects (e.g., KfW7) can get paid from afforestation as a component of the project, as will be presented later.

Table 6.9: Productivity of main crops and rate of poverty household

No.	Community forest	Productivity (ton/ha)			Poverty rate (%)
		Corn	Cassava	Dry-rice	
1	Sang	6.5	11.2	-	43
2	Hon	3.6	9	-	56.6
3	Chen	4.5	9.7	0.7	17.2
4	Cao Da			-	8.4
5	A Ma	4.5	9	1.2	41.8
6	San	4	-	-	33
7	Coc Lac	5.7	12	2.5	36
8	Cang	4.8	-	-	31
9	Mu	4.1	8.2	-	41
10	Vo Khang	4.6	-	-	17.7
11	Mo	4	7.5	-	22.8
12	Bac Hung	4.7	10.6	-	28.8
13	Bo	4.7	30	-	47

(Source: interviews, annual reports on socio-economic development of studied sites)

From the cases in Table 6.9, we can see that the distributions of agricultural land varies depending on the circumstances. The average productivity of the food crops given in the table also make clear that they are not enough to satisfy the daily needs of local forest users. This is proven by the number of households in poverty across the case studies. In addition to the three main crops, the locals also cultivate sweet potato and soy beans for extra income. However, corn is still the main crop, bringing in significant income to local forest users.

Non-timber forest products such as bamboo shoots and fuel wood may normally be freely accessed by forest users under the allocated forests. For cases with international donor involvement, the collection of fuel wood and bamboo shoots is under the supervision of the community forest committee and must therefore comply with local regulations for forest protection and development.

Box 6. 2: Example of NTFPs collected in the cases with international donor involvement

- Free collection of dry fuel wood for household needs, but not for sale, to maximum amount of one cubic meter per month;

- Free collection of medicinal plants;

- Free collection of "Neohouzeau" shoots mainly for subsistence, but not for bamboo and big-sized bamboo shoots; Local forest users are allowed to collect until August.

As a result, dead or fallen trees and branches are the main sources of fuel wood for the forest users; corncobs are also used for fuel. Efforts to increase forest cover in the two provinces by involving local communities in forest management and protection limits opportunities for forest users to collect fuel wood from the forests.

Photo 6.3: Corncob and dead branches are stored for fuel

6.2.2. Cash income from employment

Forest users in the case studies expressed their aspirations for food crop cultivation within and between the allocated forests. However, forest users are forced to contribute some of the agricultural products they've harvested to community forest committees and the patrol team. This is formally stipulated in local regulations as a fee for community forest administration.

Table 6.10: Fee contribution of forest users for community forest management

No.	Community forests	Beneficiary	
		Committees	Forest Patrol
1	Mu CF	Members and annual fee	Annual fee
2	Vo Khang CF	Members and annual fee	Annual fee
3	Mo CF	No information	No information
4	San CF	No information	No information
5	Bac Hung CF	Members and annual fee	Annual fee
6	Bo CF	No information	No information
7	Sang CF	Members and annual fee	Annual fee
8	Hon CF	Members and annual fee	Annual fee
9	Chen CF	Members and annual fee	Annual fee
10	Cao Da CF	Members and annual fee	Annual fee
11	A Ma CF	Members and annual fee	Annual fee
12	Coc Lac CF	Members and annual fee	No information
13	Cang CF	Members and annual fee	Annual fee
14	Ngoang CF	Members and annual fee	No information
15	Na Pan CF	Members and annual fee	No information

(Source: interviews, own description from local regulations)

Table 6.10 indicates the ways in which community forest committees charge local forest users fees. For the San CF, the forest patrol team directly benefits from non-timber forest products extracted from the community forest. As opposed to cases without international donor involvement, community forest committees and the patrol team are also paid from community forestry projects as shown in Table 6.11.

Across all case studies, interviews with forest committees and patrol teams reveal the need to reinforce forest management activities at the local level to prevent any infringements on the community forests. These interviewees, however, also claim that more compensation is necessary because current wages are meager, especially in the cases without international donor involvement. This, along with the analysis of other economic benefits that forest users gain, verifies the fact that community forestry is far from its objectives of poverty alleviation.

Table 6.11: Payment for memberships of committees and forest patrol team

(Money in Vnd)

	No. of Members	Monthly fee
Community forest committee		
- Head of committee	1	250,000
- Accountant	1	150,000
- Vice of committee	1	170,000
Forest patrol team		
- Leader	1	270,000
- Memberships	7	1,750,000
Control group		
- Leader	1	150,000
- Membership	1	120,000

(Source: Own description from field survey 2013)

6.2.3. Community development

Interviews and observations from the case studies clearly demonstrate that the contributions of community forestry to community development are insignificant. Community development is comprised of such things as a cultural house, gravel path, wooden bridge, and even a water cistern; however, the construction of these public facilities is beyond the range of many communities. Public works are constructed by capital raised from local forest users with materials coming from the community forests. In Ngoang village, some wooden bridges have been constructed from timber extracted in the community and allocated forests. This is expected to not only improve access to other villages and markets, but also promote local economic development. In villages such as Na Pan and Chen, cultural houses have been built to serve as a meeting/working place for the local community and community forest committee.

Photo 6.4: Public works serving local forest users

(Source: Field survey 2013)

In some villages, local traffic is difficult due to bad roads and unfavorable topography. Even though some roads have been constructed (or are currently under construction), most are pathways built via the financial contributions of forest users. Photos taken during the fieldwork show that traffic was unable to drive on these muddy, slippery pathways after it had rained (see Photo 6.5).

Observations recorded during the field survey demonstrated that while community forestry has not considerably improved the economic status of local forest users, it has improved their general quality of life (IUCN and RECOFTC 2011). However, community has limited local forest users' ability to harvest non-timber forest products, construction materials, and other forest products. As previously discussed, community forestry has not yet contributed to hunger elimination and poverty alleviation among direct forest users in remote Vietnam. Economic incomes obtained directly from forest resources have not helped to lift household economic status via accumulation, asset building, and increases in income and welfare (Sunderlin and Huynh 2005; Sunderlin 2006)

Photo 6.5: Path-ways to community forests

(Source: Field survey 2013)

6.3. Ecological outcomes of community forestry

As previously discussed, community forestry programs arose from the decline in the quantity and quality of forests. Community forestry programs thus aim to restore the forest quality and area. Across all case study sites, the undeniable degradation of the forest conditions—including massive tree loss and the decline of the forest ecosystem—supports the ecological goals of such programs. Sunderlin and Huynh (2005) emphasized that forest loss and its negative environmental impact is very closely tied to poverty as follows:

- *There are important cause and effect relationships between the transformation of rural livelihoods and dramatic changes in forest cover;*
- *The poor in remote rural areas tend to have a relatively high level of dependence on goods and environmental services from natural forests for their sustenance;*
- *Some rural people have derived great benefit from the elimination of forest cover through increased access to agricultural land and through the conversion of timber and other forest products into income and capital.*

Studies on national forest status in general and the research sites in particular have emphasized the dramatic decrease in forest area and quality due to both objective and

subjective causes from the late of 20th century (Sunderlin and Huynh 2005; de Jong et al. 2006; To et al. 2014). The high concentration of ethnic minorities and high rate of poverty play a role in making Northwest Vietnam the region with the highest rate of forest loss in the country (World Bank 2010).

Table 6.12: Forest condition before allocating to communities

No.	Community forests	Forest conditions	Sources
1	Mu CF	Poor forest after clear cutting	1
2	Vo Khang CF	Poor forest restored after clear cutting	1
3	Mo CF	Poor forest restored after clear cutting	1
4	San CF	Poor forest, restored forest after cuts and slash and burn	1,3
5	Bac Hung CF	Restored forest and medium forest but planned to be protection forest	1
6	Bo CF	Medium forest planned to be reserved forest; Medium-sized bamboo forest	1
7	Sang CF	Poor forest restored after clear cutting	2,3
8	Hon CF	Poor forest restored after clear cutting	2,3
9	Chen CF	Restored forest after cuts	2,3
10	Cao Da CF	Restored forest after clear cutting	2,3
11	A Ma CF	Restored forest, medium forest planned to be reserved forest	2,3
12	Coc Lac CF	Poor forest, restored forest after clear cutting and slash and burn	2
13	Cang CF	Medium forest	2
14	Ngoang CF	Poor and restored forests after clear cutting	2
15	Na Pan CF	Poor and restored forests after clear cutting	2

1. Interviews and officially statistic data of district forest protection of Kim Boi and Tan Lac
2. Interviews and officially statistic data of Forest Protection Department of Son La province
3. Interviews and forest inventory of the provincial KfW7 project management board in Son La and the state KfW7 project management board in Ha Noi.

6.3.1. Forest growth

In the case studies, forest rehabilitation has been implementing in two main ways in the past: i) planting forests on the forested land allocated to households, organizations, and

individuals, with a particular focus on commercial and endemic tree species such as *Acasia Mangium, Acasia Auriculiformi,* and *Fuctus Docyniae*; and ii) assisted regeneration as applied to restored and protection forests allocated to communities. Field observations suggest that the promise of ecological outcomes has seen certain achievements in terms of artificial monoculture forests, although documents exclusively dedicated to community forestry are limited. However, there is no statistical data of the planted forest inventory. Assessing the results of forest protection and development merely focuses on the increase or decrease of the forest areas, as well as the greening of bare forestry land and hills in the region.

Photo 6.6: Community forest in A MA and 50-year forest in Ngoang CFs

(Source: Field survey 2013)

The implementation of community forestry programs is applied in the same way to other community forests in the two studied regions: namely, via assisted regeneration of the natural forests and afforestation on the forested (including allocated and bare) lands. Greening and increasing the forest cover are thus seen as priority tasks for improving forest conditions with the goal of producing direct economic benefits for forest end users in the future.

6.3.2. Biodiversity

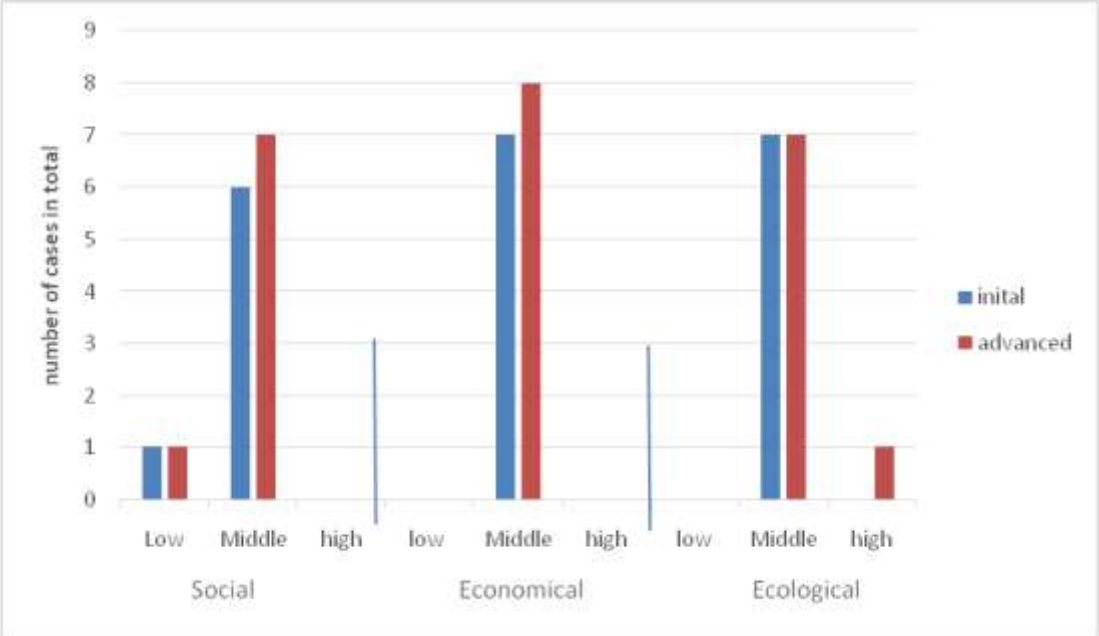
Across the 15 case studies, no observations regarding biodiversity could be made, except in some cases in the natural reserve area. There is therefore limited evidence to suggest

whether community forestry has contributed to biodiversity. Intensive cropping and poor crop structure (mainly focusing on maize and cassava) led to biodiversity deterioration in all cases. Moreover, slash-and-burn farming also negatively impacts biodiversity.

Summary:

On the basis of the core objectives of community forestry, CF outcomes are analyzed by initial and advanced stages and presented in Figure 6.1. From the figure, we can see that community forestry practices influence the outcomes of the forest management. The changes in Fig. 6.1 indicate the interests of the powerful actors in community forestry.

Figure 6.1: Outcomes of the community forestry divided into initial stage (7) and advanced stage (8)



Social outcomes were estimated to be middle (2) in most (six out of seven) of the initial cases and for all advanced cases. This revealed that forest users had limited access to information regarding community forestry, the decision-making process, and forest resources. Even when the local community is recognized as a legal entity by the Land Law (2003), their power status does not improve, as mentioned in many studies (Nguyen 2006; Phuong 2008; Ngai 2009; To 2012; To and Tran 2014). These studies indicate that the forest user is not an authoritative actor who makes his own decisions on community forestry matters. It is also strongly argued that decentralization policies are rarely followed

up with a genuine power devolution to direct forest users (Dahal 1996; Nguyen 2006; Larson et al. 2007; Springate-Baginski et al. 2007). Maryudi further concludes that the appearances of other actors limits the access forest users have to the forests (2011; 2012).

The results have also validated that economic outcomes are limited to satisfying the subsistence demands of forest end users as opposed to providing them with opportunities to improve their economic status through commercial products. This result—that the powerful actors desire middle outcomes for community forestry's end users—can be proven through the interests of the powerful relevant actors in community forestry. These meager economic outcomes are considered a consequence of the "careful calculations" of the powerful relevant actors (Maryudi 2011). The research doesn't argue that these actors do not want to see positive economic outcomes for forest users; rather, the powerful actors are aware that the maximization of economic outcomes might put their interests at risk. The economic outcomes for forest users are to the extent of their subsistence demands.

On the evaluations given above, the outcomes of community forestry in Hoa Binh and Son La are summarized in Table 6.13; the outcomes of community forestry are estimated to be medium (2) in most cases.

Table 6.13: obtained outcomes of the community forestry in the cases

No.	I_Dnr Involvement	Community Forests	Village	Outcome evaluation		
				Social	Economic	Ecological
1	YES	Sang	Muoi Noi	2	2	2
2		Hon	Chieng Bom	2	2	2
3		Chen	Phieng Ban	2	2	2
4		Cao Da	Muong Khoa	2	2	2
5		A Ma	Long Sap	2	2	2
6		San	Hop Dong	1	2	2
7	NO	Coc Lac	Tu Nang	2	2	2
8		Cang	Chieng Hac	2	2	2
9		Ngoang	Chieng Khoi	2	2	2
10		Na Pan	Chieng Dong	2	2	2
11		Mu	Cuoi Ha	2	2	2
12		Vo Khang	Kim Tien	2	2	2
13		Mo	Kim Son	2	2	2
14		Bac Hung	QuyetChien	2	2	2
15		Bo	Ngo Luong	1	2	3

(Source: Field survey 2013)

Notes: (1) means outcome is evaluated as low; (2) means outcome is evaluated as medium; (3) means outcome is evaluated as high.

Chapter 7: Interests of Powerful Actors in Community Forestry (PIDOs)

As Schusser (2012:5) described "*PIDOs is an indicator which shows the degree to which the powerful actor's interests can be related to the outcomes of community forestry*".

Each actor participating in CF has its own specific interests which vary according to the actor's position, responsibilities, designated tasks, and functions. *"Interests are based on action orientation, adhered to by individuals or groups, and they designated the benefits the individuals or group can receive from a certain object, such as a forest"* (Krott 2005:19). By arguing about interests, he noted that it is hard for interests to be observed directly; however, they can be determined through the observation of an actor's behavior. An actor rarely veils his interests, but the ways in which he behaves and what he does are reliable indicators for identifying his interests. The table below provides a summary of the interests of each powerful actor.

Through the 15 studied cases in Hoa Binh and Son La provinces, the interests of the powerful actors can be summarized in the following table.

Table 7.1: Summary of interests of powerful actors in Vietnam cases

Name of powerful actor	Main interest
Forest administration	- Control over the forest and forest resources - Sustainably management of the remaining forest areas - Preserve and improve biodiversity as well as increase forest area - Strengthen self-control by end users through capacity building for FUGR in forest management
Local government	- Improve local infrastructure as well as living condition - Strengthen self-control by end users - Poverty alleviation
Community forest committee	- Decide on forest management - Get higher economic income from forest products - Hygienic water source by green forest
Donors	- Increase forest coverage and biodiversity - Improve local's life through CF activities

Traditional authority	- Control of local forest users - Higher income for end users from forest for people
District government	-Control of local people - Improve the local people's life - Supporting Empowerment to local community in forest management
Consultant	-Getting and keeping its contract - Sustainable forest management

(Source: field survey 2012, 2013)

7.1. Forest administration

The structural system of forest administration in Vietnam is divided into four levels as follows:

1. State level. The Ministry Department of Forest Protection (MDFP) is under the management of MARD.
2. Provincial level. The Forest Protection Department (FPD) is under the management of the Department of Agriculture and Rural Development (DARD).
3. District level. The Forest Protection Section (FPS) is under the management of the Forest Protection Department.
4. The Special-Use Forest Protection Section is under the management of the board of special-use forests like national parks and natural reserve areas (LA – 03, Chapter II, Article 3).

The forest protection agencies at different levels implement assigned tasks within their authority and competence.

The mission of the forest administration at the state level is to draft/improve specific normative documents and design annual, five-year, and long-term plans on forest protection and forest product management. The tasks of the MDFP include the following: a) implement national programs and policies on forestry issues; b) delineate the forest product controlling network in the whole country; c) direct, inspect, and handle the

implementation of illegal anti-felling measures, and other orders against further unlawful actions which encroach upon the forest and forested land; d) study and apply technological and scientific progress in the field of forest resource management; and e) coordinate nationally and internationally in forest protection and forest product management.

This wide spectrum of forestry tasks being in charge by FA approves Krott's judgment "*administration is that public institution which makes decisions concerning specific problems on the basis of general legal standards, resolving those problems by implementing special measure"* (Krott 2005:137). This form of forest management is fit to the theory of bureaucracy, especially its structure, demonstrating that *"The superior administrative rationality of purposes and means lies in its capacity to fulfill its political mandate using the respectively stipulated means without being diverted by other political influences"* (Krott 2005:128). As a result, bureaucratic organizations are based in a few major aspects: 1) a predetermined hierarchy of authority; 2) fixed competencies; 3) an adherence to binding regulation; 4) fulltime expert officials; 5) substantial objectives; 6) uniform tasks and solutions; and 7) a stable general context.

In addition to the main tasks at the macro-level, the respective forest protection sectors at district level established within DARD effectuate specific tasks as follows: 1) inspect forest protection and management activities as prescribed by law; 2) prevent and handle cases of deforestation, illegal harvesting of forest products, and wildlife trade and transport; 3) guide and motivate the local community to draft and wield local regulation for forest development and protection; 4) inventory forests and forestry land in the assigned region; and 5) accompany the local government when carrying out forest land allocation (FLA).

As a state management institution effectuating defined tasks and functions, the interests of the FA are consolidated into a formal role as addressed in legal Acts 5 and 16 (See Appendix 1); in addition, FA staff at the regional level participate in other forestry activities as designated by the head of the FDS and chairman of the local government, including: guiding and mobilizing local communities to draft and implement forest protection regulation; forest development and forestry extension; and other forestry activities (LA – 11). It is clearly stipulated in Decision No.119/2006/ND-CP that "each of the forest rangers is responsible for controlling 1,000 hectares of forest" (LA - 05; IS - 41). These formal

tasks mean that the FA has a strong interest in controlling forests and forest users. This formal interest is supported by the informal interest of each forestry administration in strengthening its position (Krott 2005:126).

However, in practice, the forest ranger has to manage a forest area larger than what is defined in the legal document. By encouraging community participation in CF management, the forest administration therefore seeks to empower the local community in forest protection and development to fulfill its tasks. As provisioned in LAs – 02 and 11, the FA has the right to prevent the encroachment and sabotage of forest resources and forestry land; however, it cannot arrest offenders. In such cases, the forest administration must coordinate with the police agency to arrest offenders who act against regulations for forest protection and development (IS – 41).

Specific wishes for end users can be derived from these general interests. On the one hand, the high formal and informal interest in control means that the end user has little space in which to make his own decisions; on the other hand, the desire that the final end users control themselves demands a minimum of self-determined decision potential for each final end user. We therefore estimate social PIDOs to be a medium, meaning that the final end user gets limited space but at least some empowerment.

Forest administration is formally driven by the task of sustainable management and enhancing biodiversity. Sustainable growth and yield is strongly supported by foresters' informal beliefs in classic sustainability which are clearly shown in the Son La People's Committee's decision on Planning for Forest Protection and Development. Here, the main tasks officially focus on greening bare land/hills and maintaining/protecting current forests (LA – 24) (ISs – 07, 41). Due to these empirical findings, we consider ecological PIDOs to be a medium, as there is no evidence of biodiversity improvement recorded or documented in the research area. As a consequence, the FA prioritizes the ecological part of sustainable management and does not promote any kind of profit for the final end user, as clearly manifested in the legal document as follows: Decision No.119/ND-CP on "*Structure and activity of the forest ranger"* (LA - 05), commitments to prevent forest fires and forest management between the forest protection section and other actors (e.g., direct forest users, the FUGR, and the District Military Command (LAs – 22, 23). The economic PIDOs is therefore estimated to be low.

Box 7. 1: Difficulties in forest management for the forest ranger force in Yen Chau cases

… Due to the lack of forest ranger staff and weakness in the state management competency of the local authority, the forest protection and development tasks are met with many difficulties. In addition, problematic stipulations which define the functions, tasks, and responsibilities of actors like L_Pol1 and L_Pol2 bring about complexities in forest protection and management for the forest ranger force. L_Pol1 clearly lacks the manpower and professional competency to solve problems related to forestry; however they have the right to decide on forestry activities like forest exploitation. It could be said that the forest ranger force's power is unequal to its duties. Based on Decision No. 83 (LA – 11), a regional forest ranger has to act as both an advisor and assistant to the chairman of the local government in forestry tasks, as subject to chairman's will.

(Source: IS – 41, Rec – 28th Nov 2012)

7.2. Local government

The commune people's committee under the management of the district people's committee functions as the state management of socio-economic development activities at the regional level. The formal interests of the local authority are related to: a) setting up the annual socio-economic development plan; b) setting up the state budget, collecting revenue and carrying out expenditures in the region; c) managing land use and building infrastructure according to legislation; and d) building communal infrastructural works (LA – 03, Article 111).

The commune people's committee consists of a chairman and a vice chairman working under the supervision of the people's council. They also hold political positions and are elected by the local people every five years. The election process is divided into two steps: first, members of the people's council are elected by the locals through the people's council election; second, members of the people's council vote for the communal chairman, whose political power is thus officially gained. As stated by Krott, *"Politicians can refer to the mandate which have been given in the process of their election. The*

politicians can considerably strengthen this mandate by mobilizing the public and mass media for them to achieve more power in the face of administration" (2005:122). This power is shaped in line with the interests of the chairman's political party.

Based on their assigned authorities and responsibilities, the local government is accountable to the higher authorities for all development activities happening in the managed region, e.g., regarding natural resources and other socio-economic development activities. Therefore, to ensure all activities are implemented in accordance with the regulation, the local government requires a middle social outcome for the local forest users.

As a political institution implementing socio-economic development tasks, the local authority is interested in greening the forest and maintaining forest end users' subsistence. Therefore, middle outcomes for all ecological and economic aspects are estimated (IS – 16). The local government is aware of the forest's role in agricultural cultivation and the lives of the locals. However, observation shows that the local government's interests are not specified as just keeping the forest stand intact. The local government's implementation of forestry tasks in the region depends on the action and orientation of the forest ranger force—the result of weaknesses among local leaders in both professional ability and competence.

7.3. Community forest committees

As a representative body of forest users, the FUGR's members (the elites among the locals) are elected by forest users to organize and manage the allocated community forest and deploy CF activities such as community forest protection and collecting non-timber forest products in the interest of the forest users. A community forest committee is an official organization approved by the chairman of the local government. The FUGR's interests thus involve the formal role the group plays and, more informally, the strengthening of its resources and influence. In addition, the community forest committee is strongly influenced by the forest administration and donors, both of which were crucial in its foundation.

Empirical evidence shows that the forest administration and donors shape the members of the community forest committee in the direction of their ecological goals, as stipulated in Circular No. 70 that "Traditional authority is chosen to be the head of the FUGR. The members of the FUGR are elected from social organizations such as the Women's Association, Veteran's Union, Youth Union, etc. The head of the FUGR takes responsibility for managing and controlling forestry activities" (LA - 09).

Although the FUGR is a formal organization established by the local government, its foundation is often informally initiated and mobilized by the forest administration and donors. The purpose for this is to enhance the effectiveness of forest protection by mobilizing the participation of the local people. As a result, the FUGR's interests are partially driven by forest administration and donor objectives—this is clearly evident in the FUGR's tasks, which mostly concentrate on maintaining and protecting the community forests.

The FUGR does not prioritize the ecology but rather, as the representative body elected by the locals to undertake community forest tasks, aims to produce economic outcomes for the final end user. Moreover, due to unfavorable natural conditions (three-fourths of the area are covered with hills and mountains, resulting in a shortage of agricultural land), villagers' lives greatly depends on forest resources and the forested land. This dependence makes clear that forest protection and livelihood insurance are two issues that cannot be separated from each other. By participating in community forestry activities and facilitating forest products and services to the benefit of the locals, the FUGR expects higher and more diversified economic outcomes from the community forestry programs. Correspondingly, the FUGR has an interest in a middle economic outcome for forest end users, e.g., by supporting local grazing in the community forests and collecting NTFPs (IS – 15).

Summing up the PIDO, we can estimate ecological 1 and economic 1; the social PIDO is estimated at -1, as the FUGR wants to control the final end user as much as possible (LA – 20).

7.4. Donor

As previously stated (see Cases 4, 7-15), KfW7, a project cooperated on and piloted in Hoa Binh and Son La provinces, is co-sponsored by the Vietnamese and German governments via MARD. Although the past decade has seen forest coverage increase from 12% to 32% in Son La and 28% to 39% in Hoa Binh, it has not yet reached the objective proposed by the government (60 - 65%). Forest quality in the regional watersheds continues to decline due to population growth and overuse of the forest for construction wood, fuel wood, and other forest products.

The long-term objectives of the project are to restore the watershed forest ecosystems; protect irrigation systems; sustainably utilize forest resources; conserve biodiversity; and contribute to hunger elimination and poverty alleviation. To do so, KfW7 has implemented the following specific objectives: (i) afforest available species in the areas to regenerate the natural forest; (ii) community forest management; and (iii) biodiversity conservation. This project also aims to diversify the incomes of the local people through project and CF activity outcomes (Anonymous-3 2006).

Because district KfW7 staff are under the management of the Department of Forestry Development, their priority objective is to maintain and protect the remaining forest areas; afforest bare lands and hills corresponding to the priority policy of the state government; and contribute to poverty alleviation and hunger elimination in these two provinces. We thus estimate the PIDOs by donor as high ecological and economic outcomes for forest end users. This should be done by involving forest users in community forestry activities, supporting production materials, and paying a forest protection salary. The benefits for end users are produced from forest management activities guided and decided by the donor; as a result, the donor does not aim for the independent decisions of end users, meaning that social PIDOs is estimated to be low.

7.5. Traditional Authority

Generally speaking, the oldest or most respected person in a community is elected by the villagers to be the traditional authority. A traditional authority links the local government

and community; he informs the locals of plans, instructions, and decisions by the local government and mobilizes them to participate in socio-economic development activities such as afforestation organized by the forest administration, donor, and/or local government. Although the traditional authority is not a powerful actor in community forest activities, he is indispensable in community forestry tasks, especially in mobilizing and encouraging communities' participation and following community forestry operation regulations/local regulations on forest management and protection.

The traditional authority is an informal body and all his activities are guided by the forest administration, consultants, and donors. He seeks control over the end user, which is why the value of the social PIDOs is estimated to be low. He would like to see green forests and a higher income for the final end users. Thus, economic and ecological PIDOs are estimated to be high and medium, respectively.

7.6. District Department of Agriculture and Rural Development

The district agricultural department is a formal agency under the management and representation of the district people's committee; as such, it functions as a counselor for the chairman of the district people's committee regarding agricultural, forestry, and aquatic activities taking place within the managed area. Its main tasks are (1) the annual plan for agricultural and forestry development; (2) reckoning up the change of agricultural and forestry land and the others; and (3) implementing and being accountable for the evaluation, registration, and granting of permits under professional bodies. The district agricultural department is a politically strong body pushing its implementation. The social PIDOs is therefore evaluated as low (LA – 14).

Box 7. 2: Procedure for approving tree harvesting in Yen Chau cases

"…We must get an exploitation permit granted by the District Department of Agriculture and Rural Development if we want to extract timber from the forest. The procedure of petitioning for logging is very complicated. The application for logging must be approved by the FUGR, then the FA, and afterward the Local Pol. The final decision is made by L_Pol1."

In the past two years, L_Pol1 has not granted forest owners any licenses for wood exploitation without reason.

Source: ISs - 11, 19, 41, 42

However, as a functional agency of the district people's committee, the district agricultural department also attaches special importance to improving the socio-economic status of the local people. For this reason, this actor is expected to have middle ecological and economic outcomes over the CF program. There is no regulation forbidding the locals from collecting NTFPs or fuel wood from the allocated forests issued by the district agricultural department.

7.7. District Department of Environment and Resource – L_Pol2

Like the district agricultural department, the district department of environment and resource is an official agency under the management of the district people's committee. It functions as a counselor and assists the district people's committee in state management over environmental issues and natural resources such as land, mineral resources, water resources, etc. The primary missions undertaken by this actor mainly focus on managing environmental and resource issues, and in particular planning land use at the district level and implementing those plans after their approval. Likewise, this department: evaluates land use planning at the communal level; evaluates documents of land allocation, lease, revocation, and transfer of land use rights; and grants land use certificate and land ownership (LA – 17, Part II, Item II).

This actor is not particularly involved in community forestry, with the exception the handling of forestland allocation applications and land use certificates granted to the community, organizations, social unions, households, and individuals. They have no desire for a specific economic or ecological outcome, but they do control forest users; as a result, the social PIDOs is evaluated as low.

7.8. Consultants

Because a consultant is an independent body working under a signed contract with the State Project Management Board, his tasks are to advise the Board on organizing and executing the project. Likewise, he helps the local community in designing local regulation (IS – 68). During project implementation, the consultant is primarily in direct contact with local forest users, in particular the community forest committee and the Project Management Board at the local level.

However, the consultant is also an informal member of staff under MARD; tasks undertaken by the consultant thus support the donor project by mobilizing local community participation in community forestry activities. As a result, the social outcome is estimated to be medium for the forest end users. This actor also expects to build the local community's capacity for improving their socio-economic status; he therefore expects middle outcomes in economic and ecological terms for local forest end users.

Summary:

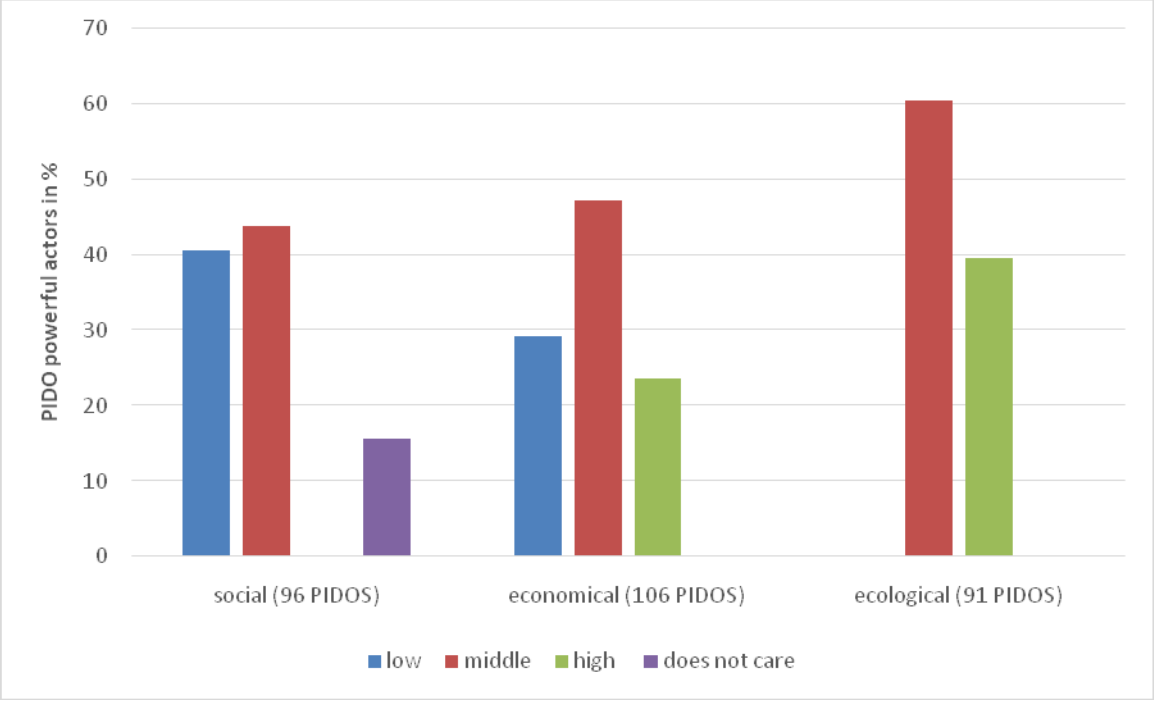
On the basis of the given analysis, the interests of the powerful relevant actors over community forestry across all 15 cases are described in Figure 7.1. Here, it is apparent that no powerful actor expects high social outcomes for direct forest users. Remarkably, 40% want low social outcomes and 15% do not care about the outcomes for forest users.

The results are a bit different for the economic outcomes of the direct forest users. Nearly 50% of the powerful actors expect middle outcomes for forest users, 30% would like to see low outcomes, and over 20% expect high outcomes. This validates the notion that none of the powerful relevant actors expect meaningful empowerment for the forest users, and few expect high outcomes for them. These results are in contradiction with the goals of community forestry, which aim to genuinely empower and economically contribute to direct forest users.

The results of the ecological PIDOs are different from social and economic PIDOs. Here, approximately 40% of the powerful actors (mainly forest administrations) expect high ecological outcomes from community forestry. The majority (60%) desire middle outcomes in terms of sustainable forest management and greening forests. Most of the powerful

relevant actors interested in the natural environment expect middle outcomes for the local people. The results of these social, economic, and ecological PIDOs correspond to the results of the Community Forestry Working Group (Schusser et al. 2015). However, the PIDOs results for donors in Vietnam are different from the case studies done by the Community Forestry Working Group. Across all cases, findings reveal that donors are under the management of MARD but were also funding community development empowerment with the goal of meeting forest protection and management objectives, as defined in the 5 Million Hectare Forest Plantation (5 MHFP) (Nguyen 2008; Ngai 2009; To et al. 2014).

Figure 7.1: Powerful interest desired outcomes (PIDOs) of the powerful relevant actors



Chapter 8: Influence of Powerful Actors on Community Forestry

8.1. Influence of powerful actors on community forestry

Table 8.1: Confirmation of the outcomes through the powerful interests

CF	Existing outcomes			Powerful Actors	Interests		PIDOs		
	Soc.	Econ	Ecol.				Soc.	Econ.	Ecol.
Sang	2	2	2	A, B, C, D, E, F	FA	Poverty alleviation, Empowerment, Forest condition	-1	1	+1
Hon	2	2	2	A, B, C, D, E, F		Control over the forests	-1	1	+1
Chen	2	2	2	A, B, C, D, E, F	Local Pol	Poverty alleviation, community development	-1	1	+1
Cao Da	2	2	2	A, B, C, D, E, F			-1	1	+1
A Ma	2	2	2	A, B, C, D, E, F	District Gov.	Poverty alleviation, community development	-1	1	+1
San	1	2	2	A, B, C, E, F		Personal perquisite	-1	1	+1
Coc Lac	2	2	2	A, B, C, D, E, F	FUGR	Poverty alleviation, improvement of livelihood	-1	1	+1
Cang	2	2	2	A, B, C, D, E, F		Control over the forest users	-1	1	+1
Ngoang	2	2	2	A, B, C, D, E, F	Donor	Poverty alleviation, forest condition, empowerment	-1	1	+1
Na Pan	2	2	2	A, B, C, D, E, F		Financial gains	-1	1	+1
Mu	2	2	2	A, B, C, E, F	TA	Poverty alleviation	-1	1	+1
Vo Khang	2	2	2	A, B, C, E, F		Control over the forest users, finance	-1	1	+1
Mo	2	2	2	A, B, C, D, E, F	- FA codes A; - Local Pol codes B;		-1	1	+1
Bac Hung	2	2	2	A, B, C, F	- District government codes C; - FUGR codes D; - Donor codes E; - TA codes F.		-1	1	+1
Bo	1	2	3	A, B, C, F			-1	1	+1

Notes:

- PIDOs:
-1 means powerful actors expect low outcomes
1 means powerful actors expect medium outcomes
+1 means powerful actors expect high outcomes

- Existing outcomes:
1 means low
2 means medium
3 means high

Formal interests
Informal interests

The leading hypothesis of this analysis is that community forestry outcomes can be explained by the interests of powerful relevant actors. The summarized results of the outcomes and interests of the powerful actors in community forestry are presented in

Table 8.1. The table shows that different actors have their own interests in community forestry. On the basis of the assigned functions, tasks, and authorities, the powerful actors manipulate community forestry activities to their own ends.

8.1.1. Forest administration

As seen in Table 8.1, some actors involved in community forestry are considered powerful due to the calculated results presented in Chapter 5, Figure 5.4. Of these, the forest administration is identified as the only powerful actor appearing in all case studies that is directly involved in community forestry. As a state institution, the interests of the forest administration are defined via priority tasks and goals as stipulated in various acts and legal documents (LAs – 02, 05). The forest administration answers to the people's committees at the corresponding levels for activities related to forests and forestry in the region. To ensure the success of its assigned forest protection and development, it builds relationships with other actors in the community forest network to influence the CF outcomes of community forestry to suit its own ends. During the implementation of community forest processes, the forest administration draws up legal documents as the basis for forestry practices and sets up/plans forestry land use. Examples include:

- Decision No. 106/2006/QD-BNN on "*Guidelines for Community Forest Management at hamlet level*";

- Decision No.40/2005/QD-BNN "*Regulations on exploitation of timber and other forest products*";

- Dispatch No.2324/BNN-LN on "*Instructions for technical standard and exploitation procedures in community forest*";

- *Circular No.38/2014/TT-BNNPTNT on "Instructions for a sustainable forest management plan*";

These legal documents, issued by MARD, provide the forest administration with a legal means of ensuring that the tasks of forest protection and development will meet the forest administration's aspirations for community forestry activities. At the local level, many official dispatches, decisions, and plans in support of the MARD legal documents have been passed to direct forestry activities according to the interests of the forest administration, including:

- Decision No. 2188/QĐ-UBND by the Son La People's Committee on "*Planning for Forest Protection and Development in Son La province to 2015 and orientation to 2020*";

- Decision No. 3011/QĐ-UB of the Provincial People's Committee on the "*Precarious promulgation of forest-land allocation policies applied in the province and regulations of beneficial policies on forestry land to the organizations, individuals, households that are assigned the forest and forestry land contract*";

The forest administration also engages local institutions in community forestry/forestry activities by offering them facilities or even financial aid. For example, the traditional authority is nominated to be the head of the community forest committee, while the vice chairman of the Communal People's Committee is nominated to be the leader of the forest protection group. It was also observed during the field survey that the forest administration signs a temporary labor contract for a village forest ranger post with a local forest user; this user is normally kin to the traditional authority (ISs – 94, 95, 105, 106). Through binding local institutions (instead of directly controlling local forest users), the forest administration gains indirect control over the forests and forest access.

- "*Commitment on Forest Protection and Forest Fire Prevention"* applied to forest owners;

- "*Regulation on coordination between the Forest Ranger and the Militia in forest protection and management*", issued on 15th Sep 2011 by Thuan Chau Forest Protection Section;

These legal documents, along with engagement with individuals and local institutions, provide the forest administration with the ability to drive the outcomes of community forestry to be in line with its own interests. Such interests strongly restrict the socio-economic outcomes of community forestry in contrast with the task of forest rehabilitation (Nguyen 2006).

8.1.2. Donors

Donors are a powerful actor in community forestry as shown in Table 8.1. As presented in the previous chapter, the KfW7 project, established under the investment of the German

Bank for Reconstruction, aims to improve forest conditions and local people's lives in Hoa Binh and Son La. Legal Acts 06 and 07 make it clear that the project mainly focuses on forest rehabilitation through three components: (i) afforestation; (ii) biodiversity; and (iii) community forestry. To easily implement community forestry in the field, project management boards are founded at different levels to engage other actors in the project.

- One way a donor ensures that the outcomes of community forestry suit its goals is by selecting a political actor to be the director of the project management board at district level and the leader of the project working group at communal level (ISs – 05, 17, 20). Here, donors expect to make use of the power and influence of political actors to get the support and approval of local authorities, as well as to influence local institutions during the community forestry process.

- Another method is to nominate a traditional authority to be the head of the community forest committee; that person will then be able to convince local forest users to comply with the local laws and forest protection regulations suggested by the donor and the forest administration (LAs – 25, 35).

- Yet another tactic is to use professional knowledge and incentives to drive community forestry activities to be in line with the expected goals of the project. Observations from our fieldwork show that although local forest users might expect tree A, the donor suggests planting tree B to speed up the forest greening. In such cases, local forest users have to accept the donor's suggestion in order to get paid. In addition to incentives, advanced knowledge is also applied to gain local forest users' acceptance through the five-year forest management plan. Across the cases in Hoa Binh, although the number of trees in the forest stands is higher than defined in the desired-forest model, local forest users are persuaded to maintain it as compensation for other models (IS – 69). This strategy is confirmed to be providing incentives to encourage local people to support activities that met conservation interests rather than local livelihood needs (Berkes 2006).

8.1.3. District government

Although the district government does not really participate in community forestry practices, it is still considered a powerful actor as it can influence CF outcomes by approving decisions and policies related to the forests. An interview with the head of

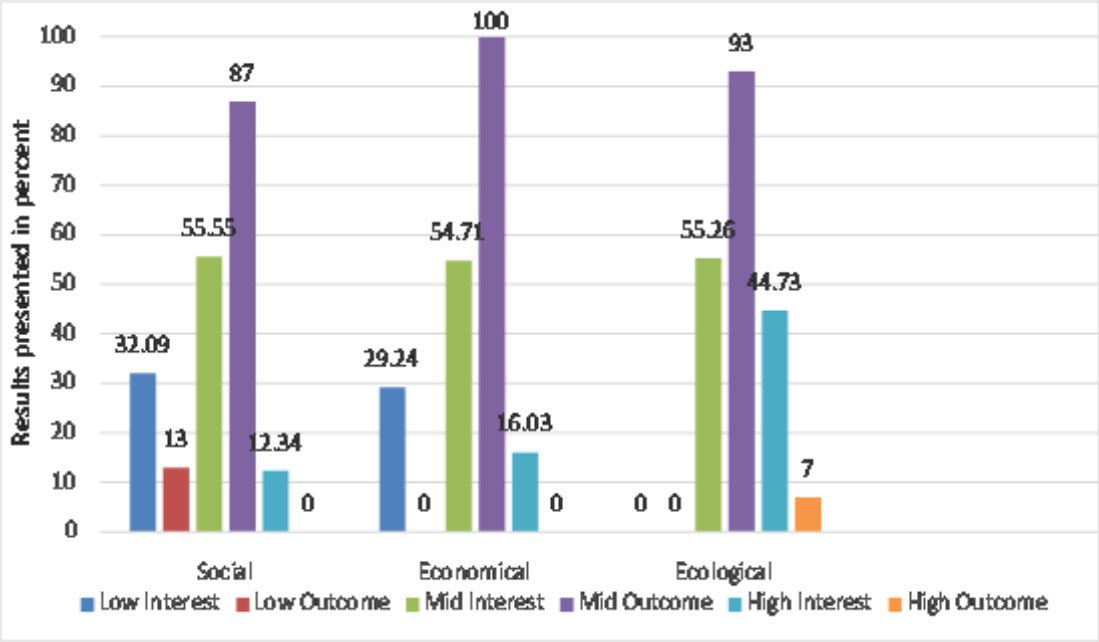
District Department of Agriculture of Son La province illustrates that this actor holds veto power over the application for local users to harvest from planted forests.

"… To maintain and improve the forest cover in the area, we have not approved any applications of the local people on harvesting the planted forests…" (ISs – 41, 42).

This example proves that the district government through its administrative role can influence the outcomes of community forestry to suit its own political agenda regardless of the forest end users' wills.

8.2. Comparison of PIDOs with the outcomes of community forestry

Figure 8.1: PIDOs and outcomes comparison



With the assumption that the powerful actors wield their power to obtain certain outcomes, a comparison of the achieved outcomes and the desired interests of the powerful relevant actors (PIDO) is applied to confirm whether there is a connection between the interests of these actors and the outcomes of community forestry. To do so, the actors who either do not care about or do not influence community forestry will be omitted from the case

studies. This comparison is only applied to advanced cases, as these last long enough for the powerful actors to exert their influence on community forestry practices as shown in Figure 8.1.

To test whether there exists a relationship between the interests of powerful actors and the outcomes of community forestry, the Spearman correlation was conducted with SPSS 23. The statistical results show that the correlation of their interests with the outcomes is significant, as the significant value (P) is at 0.011 smaller than 0.05. This indicates that the interests of powerful actors are indeed related to the outcomes of community forestry. The results also pointed out that the interests of powerful actors show a congruence of 37.12% for social outcomes, 9.44%, for economic outcomes, and 24.53% for ecological outcomes. That the share of middle social, economic, and ecological outcomes is higher than the share desired by powerful actors points out the challenges in community forestry in the research sites.

It is further suggested from the social outcomes that the empowerment of direct forest users and community forest committees is merely due to their partial participation in community forestry activities rather than any meaningful devolution of power. In our research, there were no differences between those cases which involved international donors and those that didn't. The appearance of political actors and public administration in these cases validates that community forestry programs are being implemented to serve state forestry goals. In other words, community forestry in Vietnam can be seen as "***old wine in a new bottle***."

The economic outcome in the figure does not go beyond satisfying the subsistence of the local forest users. While nearly 80% of the powerful relevant actors expect low and middle economic outcomes, the forest end users reflect the real interests of the powerful relevant actors over the community forestry program.

Chapter 9: Lessons Learned for Community Forestry in Vietnam

This research has achieved a comprehensive understanding of community forestry in Vietnam as a whole and community forestry in the research areas in particular. Community forestry programs have made certain socioeconomic and ecological gains on the ground. Although forests managed by communities have been recognized and in existence for a long time, community forestry has only been implemented in Vietnam in recent years. The passing of legal acts like the Forest Land Allocation (LA - 40), and Land laws (amended in 2013) (LA - 38) are seen as important milestones for implementation of community forestry, where the legal status of a local community is recognized as involved in the community forestry process. However, factors such as poverty, low educated levels, poor infrastructure, low direct income from the forests, and weak coordination among actors are barriers that obstruct the success of community forestry (Sikor and Nguyen 2007; Ngai 2009; Tan and Sikor 2011; Lam 2012). Despite these obstacles, community forestry has significantly improved forest conditions. Forest activities such as assisted-forest regeneration, afforestation, and forest rehabilitation have created positive changes in the area and stock of forests in the research areas. In addition to these ecological results, meaningful opportunities for the livelihood of the local community have been created to directly benefit local forest users, despite the disparities in the cases.

The obtained results on the influence of the powerful relevant actors in connection with the outcomes of community forestry provide a scientific and practical basis from which we can discuss outcomes for the following:

- Genuine empowerment of local forest users in access to the forests. Although "Sổ Đỏ" certificates of land-use rights have been granted to forest recipients, the titles have not served as proof of full legal rights, as they have often stated that forested land is contracted to land holders. As a result, the "Sổ Đỏ" did not grant the holders the full tenure rights stipulated in the Land Law; they thus did not carry much value for the local forest users (Nguyen 2008; Ngai 2009).

- The need to extend the types of forests allocated to the local community. Empirical findings show that the outcomes of community forestry are arranged by relevant actors'

interests. Tan and Sikor (2011) stressed that forestland allocation has not generated positive outcomes in many of the local communities but has contributed to forest management. Findings across the case studies prove that since the forests handed over to the local community are poor forests, the locals' benefits from those forests are negligible.

- Forest administration institutions as key entities responsible for forestry activities. Empirical findings clearly show that the responsibility for forest management overlaps between relevant actors such as the forest administration and district department of agriculture. Forest rangers, important actors in forest protection, still stand separate from forestry projects, especially in community forestry programs.

- Improving cash income from community forests for local forest users by increasing payments for community forest management and protection. In practice, sources of income from the forestry activities make up only a small percentage of a household's gross income.

In general, there is convincing evidence and strong arguments to be made on the connection between real outcomes of community forestry and the influence of powerful relevant actors. Such empirical findings allow us to argue that the hypothesis that '*community forestry activities and outcomes are influenced by the interests of powerful relevant actors*' was correct. The empirical findings have also successfully explained that the outcomes of community forestry are an additional function of the interests of the powerful actors situated in the outer, rather than inner, circle of community forestry. This suggests that looking at powerful relevant actors is extremely important for analyzing a community forestry program. Community forestry practices will achieve great success if they are in line with the views of the relevant actors and their networks. Moreover, the disparity between the internal and relevant power of the actors needs to be taken into account to expand and strengthen users' influence in community forestry.

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APPENDICES

Appendix 1: List of Legal Act Sources

Source of Legal Acts	Code	Original Title in Vietnamese	Title Translated into English	Issuing Institutions
Legal Act 01	LA – 01	Luật số 12/2003/QH11, Quốc Hội nước Cộng hòa xã hội chủ nghĩa Việt Nam về "***Luật bầu cử Hội đồng nhân dân"***, ngày 26/11/2003.	Law No. 12/2003/QH11 "***Law on the election of deputies to the people's council"***, issued by National Assembly of Vietnam Socialist Republic, on 26th Nov 2003	National Assembly
Legal Act 02	LA – 02	Luật số: 29/2004/QH11, ngày 3 tháng 12 năm 2004 „***Luật bảo vệ và Phát triển rừng***"	Law No.: 29/2004/11th Parliament Session, date 3rd, Dec 2004 „***Forest Development and Protection Law***"	Parliament
Legal Act 03	LA – 03	Luật tổ chức "***Hội đồng nhân dân và Ủy ban nhân dân***" số 11/2003/QH11 do Quốc Hội nước Cộng hòa xã hội chủ nghĩa Việt Nam ban hành ngày 26/11/2003	Law on "***organization of people's council and people's committee"***, by Parliament of Vietnam Socialist Republic on 26th Nov 2003	Parliament
Legal Act 04	LA – 04	Quyết định số 29/2011/QĐ-TTg của Thủ tướng chính phủ, ngày 30 tháng 1 năm 2011 về việc „***Ban hành chuẩn hộ nghèo, cận nghèo***" áp dụng trong giai đoạn 2011 – 2015	Decision No. 29/2001/QĐ-TTg of the Prime minister, 30 Jan 2011 about ***"Promulgating the standard of close to poverty and poor household***", applied in the period of 2011 – 2015.	Prime Minister
Legal Act 05	LA – 05	Nghị định số 119/2006/NĐ-CP của Thủ tướng Chính phủ về "***Tổ chức và hoạt động của Kiểm lâm***" ngày 16 tháng 10 năm 2006	Decree No. 119/NĐ-CP, 16th Oct 2006 of Prime Minister on "***Structure and Activity of the Forest Ranger***"	Prime Minister
Legal Act 06	LA – 06	Quyết định số 2090/QĐ-DALN-KHKT ngày 25 tháng 10 năm 2010 của Ban Quản lý các Dựa án Lâm nghiệp - Bộ NN&PTNT về việc „***Hướng dẫn thực hiện một số hoạt động trong Quản lý rừng cộng đồng áp dụng cho dự***	Decision No. 2090/QĐ-DALN-KHKT, 25th Oct 2010 of the management board of forestry projects – Ministry of Agriculture and Rural Development on „***Instruction for implementing activities in CF***	Ministry of Agriculture and Rural Development

		án phát triển Lâm nghiệp ở Hòa Bình và Sơn La (KfW7)"	***management applied to the Forestry Development Project in Hoa Binh and Son La (KfW7)***"	(MARD)
Legal Act 07	LA - 07	Quyết định số 1528/QĐ-BNN-HTQT ngày 26 tháng 5 năm 2006 của Bộ NN và PTNT "***Phê duyệt dự án phát triển lâm nghiệp ở Hòa Bình và Sơn La (KfW7)***"	Decision No. 1528/QĐ-BNN-HTQT of MARD on "***Approving the Forestry Development Project in Hoa Binh and Son La (KfW7)***", issued on 26th May 2006.	MARD
Legal Act 08	LA – 08	Quyết định số 3809/QĐ-BNN-TCCB ngày 13 tháng 12 năm 2006 vềviệc "***Thành lập Ban Quản lý dự án trung ương – Dự án Phát triển Lâm nghiệp ở Hòa Bình và Sơn La (KfW7)***"	Decision No. 3809/QĐ-BNN-TCCB of MARD on "***Establishing the state project management board – the Forestry Development Project in Hoa Binh and Son La (kfW7)***", issued on 13th Dec 2006	MARD
Legal Act 09	LA – 09	Thông tư số 70/2007/TT-BNN "***Hướng dẫn xây dựng và tổ chức thực hiện quy ước bảo vệ và phát triển rừng trong cộng đồng dân cư thôn***" của Bộ NN&PTNT ngày 1 tháng 8 năm 2007.	Circular No. 70/2007/TT-BNN on "***Guidelines on setting up and organizing the Convention of Forest Protection and Management applied in communal people community***", issued on 1st Aug 2007 by MARD	MARD
Legal Act 10	LA – 10	Quyết định số 38/2005/QĐ-BNN ngày 6 tháng 7 năm 2005 của Bộ trưởng Bộ NN&PTNT về việc "***Ban hành định mức kinh tế kỹ thuật trồng rừng, khoanh nuôi xúc tiến tái sinh và bảo vệ rừng"***	Decision No. 38/2005/QĐ-BNN on ***"Promulgation of economic and technical norm for forest plantation, maintenance assisted natural regeneration and forest protection"*** by Ministry of MARD, issued on 6th Jul 2005.	MARD
Legal Act 11	LA – 11	Quyết định số 83/2007/QĐ-BNN của Bộ trưởng Bộ NN&PTNT về "***Nhiệm vụ công chức Kiểm lâm địa bàn cấp xã",*** ngày 4 tháng 10 năm 2007	Decision No. 83/2007/QĐ-BNN on "***Assignment of civil service of the ranger at communal level"*** by Minister of MARD on 4th Oct, 2007	MARD
Legal	LA – 12	Thông tư số 35/2011/TT-BNN&PTNT của Bộ Nông nghiệp và Phát triển Nông thôn về "***Hướng dẫn thực hiện khai***	Circular letter No. 35/2011/TT-BNNPTNT, issued on 20th May 2011 of MARD, on "***Guiding the***	MARD

Act 12		***thác, tận thu gỗ và lâm sản ngoài gỗ***" ngày 20/05/2011	***implementation of logging, salvaging wood and NTFPs***"	
Legal Act 13	LA – 13	***Hiệp định Tài chính và Vốn vay*** ngày 11.12.2006 giữa Ngân hàng Tái thiết Đức và Bộ tài chính – Nước cộng hòa xã hội chủ nghĩa Việt Nam	***Loans and Financial Agreement***, signed on 11th Dec 2006 between German Reconstruction Bank (KfW) and Ministry of Finance – Vietnamese Government	Ministry of Finance
Legal Act 14	LA – 14	***"Thông tư liên tịch"*** của Bộ NN&PTNT – Bộ Nội vụ số 61/2008/TTLT-BNN-BNV ngày 15 tháng 5 năm 2008	***"Joint circular"*** of MARD – Ministry of the Interior, No. 61/2008/TTLT-BNN-BNV, issued on 15th May 2008	MARD – Ministry of the Interior
Legal Act 15	LA - 15	"**Thông tư liên tịch**" số 62/2012/TTLT-BNNPTNT-BTC của Bộ NN&PTNT và Bộ Tài Chính về ***"Hướng dẫn cơ chế quản lý sử dụng tiền chi trả dịch vụ môi trường rừng"*** ngày 16 tháng 11 năm 2012.	"Joint Circular" No. 62/2012/TLT-BNNPTNT-BTC of MARD and Ministry of Finance on ***"Guidelines for utilization and management mechanism of PES"***, issued on 16th Nov 2012	MARD and Ministry of Finance
Legal Act 16	LA – 16	**Thông tư liên tịch** số 80/2013/TTLT-BTC-BNN ngày 14/6/2013 của Bộ Tài chính và Bộ NN&PTNT về ***"Thực hiện chế độ quản lý, sử dụng kinh phí sự nghiệp thực hiện bảo vệ và phát triển rừng"***	**Joint Circular** No. 80/2013/TTLT-BTC-BNN on ***"Implementation of management and use of business funds for forest development and protection",*** issued on 14th Jun 2013 by MARD and Ministry of Finance	MARD and Ministry of Finance
Legal Act 17	LA – 17	***"Thông tư liên tịch"*** của Bộ TNMT và Bộ Nội vụ số 03/2008/TTLT-BTNMT-BNV ngày 15 tháng 7 năm 2008	***"Joint circular"*** of Ministry of Environment and Resource – Ministry of Interior, No. 03/2008/TTLT-BTNMT-BNV, issued on 15th Jul 2008	Ministry of Environment and Resource – Ministry of Interior
Legal Act 18	LA – 18	Quyết định số 100/QĐ-UB ngày 25 tháng 01 năm 2002 của ủy ban nhân dân huyện Thuận Châu về việc „***Cấp giấy chứng nhận quyền sử dụng đất***"	Decision No. 100/QĐ-UB, 25th Jan 2002 of Thuan Chau district people's committee on „***License the certificate of land use rights***"	District Committee

Legal Act 19	LA – 19	Quyết định số 12/QĐ-UBND của ủy ban nhân dân xã Chiềng Bôm về việc "***Thành lập Ban quản lý rừng cộng đồng***", ngày 25/11/2011	Decision No. 12/QĐ-UBND of ChiengBom commune people's committee on "***Establishing the Community Forest Management Board"***, issued on 25th Nov 2011	Local Government Unit
Legal Act 20	LA – 20	Quyết định số 127/QĐ-UBND của ủy ban nhân dân xã Chiềng Bôm về việc "***Phê duyệt Quy chế hoạt động của Ban quản lý rừng cộng đồng***", ngày 25/11/2011	Decision No. 127/QĐ-UBND of ChiengBom commune people's committee on "***Approving the operating regulation of the Community Forest Management Board"***, issued on 25th Nov 2011	Local Government Unit
Legal Act 21	LA – 21	**Quy ước Bảo vệ và Phát triển rừng** bản Sẳng, xã Muổi Nọi	**Regulation of Forest Development and Protection,** Sang village, Muoi Noi commune	Local Pol, FA, FUGR
Legal Act 22	LA – 22	**Cam kết Bảo vệ rừng và Phòng chống cháy rừng** với các chủ rừng, bản Sẳng, xã Muổi Nọi	**Commitment to Forest Protection and Forest Fire Prevention** applied to forest owners, Sang village, Muoi Noi commune	FA, Local Pol
Legal Act 23	LA - 23	**"Quy chế phối hợp hoạt động giữa lực lượng Kiểm lâm và Dân quân tự vệ trong công tác bảo vệ rừng"** ngày 15 tháng 9 năm 2011 của Hạt kiểm lâm huyện Thuận Châu	**"Regulation on coordination between Forest Ranger and Militia in forest protection and management"**, issued on 15th Sep 2011 by Thuan Chau Forest Protection Section	FA
Legal Act 24	LA - 24	*Quyết định số 2188/QĐ-UBND của ủy ban nhân dân tỉnh Sơn La về việc "**Phê duyệt Quy hoạch Bảo vệ và Phát triển rừng tỉnh Sơn La đến năm 2015 và định hướng đến năm 2020"**, ngày 8 tháng 9 năm 2008*	Decision No. 2188/QĐ-UBND of Son La People's Committee on "***Planning for Forest Protection and Development in Son La province to 2015 and orientation to 2020",*** issued on 8th Sep 2008	Provincial Committee
Legal Act 25	LA – 25	*Quyết định số 2396/QĐ-UB của Ủy ban nhân dân tỉnh Sơn La về việc "**Phê duyệt phương án giao đất lâm nghiệp, giao rừng tự nhiên năm 2001 – 2003 cho tổ chức, cá nhân, hộ gia định và cộng đồng thôn bản**" ngày 17 tháng 11 năm 2000*	Decision No. 2396/QĐ-UB of Provincial People's Committee on "***Approving the plan of allocating forestry land and natural forest to individual, houshold, and community (2001 – 2003)"***, issued on 17th Nov 2000	Provincial Committee

Legal Act 26	LA - 26	*Quyết định số 3011/QĐ-UB của Ủy ban nhân dân tỉnh Sơn La về việc "**Ban hành tạm thời chính sách giao đất, giao rừng áp dụng tại địa phương và quy định chính sách hưởng lợi trên đất lâm nghiệp với tổ chức, cá nhân, hộ gia định và cộng đồng được giao, nhận khoán rừng và đất lâm nghiệp**"*	Decion No. 3011/QĐ-UB of Provincial People's Committee on "***Precarious promulgation of forest-land allocation policies applied in the province and regulations of beneficial policies on forestry land to the organizations, individuals, households that are assigned the contract of forest and forestry land contract"***	Provincial Committee
Legal Act 27	LA – 27	*Quyết định của Chi cục Kiểm lâm tỉnh Sơn La về việc "**Ban hành quy chế làm việc của Hạt kiểm lâm huyện Thuận Châu**", 2008*	**Decision on "***Working regulations of Thuan Chau Forest Protection Section***", issued by Provincial Forest Protection Department, 2008**	FPD
Legal Act 28	LA - 28	*Quyết định số 126 của UBND xã Chiềng Bôm về việc "**Thành lập ban quản lý rừng cộng đồng"**, ngày 25 tháng 11 năm 2011*	Decion No. 126 on "***Establishment of Mo communal Community Forestry Committee"*** on 25th Nov 2011	Local Pol
Legal Act 29	LA – 29	*"**Quy chế hoạt động quản lý lâm nghiệp cộng đồng bản Mỏ**" ngày 12 tháng 10 năm 2011*	"***Working regulation on Community Forestry Management in Mo village***", 12th Dec 2011	FUGR, Local Pol
Legal Act 30	LA - 30	*Quyết định số 245/1998/QĐ-TTg của Thủ tướng Chính phủ về "**Thực hiện trách nhiệm quản lý nhà nước của các cấp về rừng và đất lâm nghiệp**", ngày 21 tháng 12 năm 1998.*	Decision No. 245/1998/QĐ-TTg of Prime Minister on "***The implementation of State management responsibility at various levels over the forest and forestry land***", issued on 21st Dec 1998	Prime Minister
Legal Act 31	LA - 31	*Quyết định số 2334/QĐ-UBND ngày 12 tháng 9 năm 2011 về việc "**Thành lập tổ công tác KfW7 xã Mường Khoa, huyện Bắc Yên, tỉnh Sơn La**" của UBND huyện Bắc Yên*	Decision No. 2334/QĐ-UBND on "***Establishment of KfW7 working group at Muong Khoa commune, Bac Yen District, Son La province"***, issued by Bac Yen Provincial People's Committee, 12th Sep 2011	Provincial Committee
Legal Act 32	LA - 32	*Quyết định số 199/QĐ-UB ngày 1 tháng 8 năm 2004 về việc "**Phê duyệt hương ước thôn bản**" của UBND huyện Yên Châu*	Decision No. 199/QĐ-UB on "***Approvement of the local regulation",*** issued on 1st Aug 2004 by Yen	Provincial Committee

			Chau Provincial People's Committee	
Legal Act 33	LA - 33	*Quyết định số 783/1999/QĐ-UB của ủy ban nhân dân tỉnh Sơn La, ngày 19 tháng 5 năm 1999 về việc "**Chuyển đổi các dự án 327/CT thành dự án 661**"*	Decision No. 783/1999/QĐ-UB on ***"Changing 327/CT projects to 661 project",*** issued by Son La Provincial People's Committee	Provincial Committee
Legal Act 34	LA - 34	*Quyết định số 661/QĐ-TTg của Thủ tướng Chính phủ ngày 29 tháng 7 năm 1998 về "**Mục tiêu, nhiệm vụ, chính sách và tổ chức thực hiện dự án trồng mới 5 triệu hecta rừng"***	Decision No. 661/QĐ-TTg on ***"Objective, target, policy and organization for implementing 5-million hectares forest plantation"***, issued by Vietnam Prime Minister on 29th Jul 1998	Prime Minister
Legal Act 35	LA – 35	*Nghị định số 02/CP của Thủ tướng Chính phủ ngày 15 tháng 01 năm 1994 **"Ban hành quy định về việc giao đất lâm nghiệp cho tổ chức, hộ gia đình, cá nhân sử dụng vào mục đích lâm nghiệp"***	Decree No. 02/CP on "Promulgating the regulation of forestry land allocation to organizations, households, individuals used for forestry aim", issued by Vietnam Prime Minister on 15th Jun 1994	Prime Minister
Legal Act 36	LA – 36	*Chỉ thị số 462/TTg của Thủ tướng Chính phủ về **"Quản lý chặt chẽ việc Khai thác, Vận chuyển và Xuất khẩu gỗ**", ngày 11 tháng 9 năm 1993.*	Instruction No. 462/TTg on ***"Stringent control of the exportation, transportation and exploitation of wood",*** issued by Vietnam Prime Minister on 11th Sep 1993	Prime Minister
Legal Act 37	LA – 37	*Quyết định số 327/CT của Chủ tịch Hội đồng Bộ trưởng ngày 15 tháng 9 năm 1992 về **"Một số chủ trương, chính sách sử dụng đất trống, đồi núi trọc, rừng, bãi bồi ven biển và mặt nước"***	Decision No. 327/CT on ***"The Policies on utilization of bare lands, hills and mountains; forests; coastal alluvials and water surfaces"***, issued by the Chairman of Minister Council on 15th Sep 1992	Council of Ministers
Legal Act 38	LA – 38	***"Luật Đất đai"** số 45/2013/QH13 ngày 29 tháng 11 năm 2013 của Quốc Hội nước Cộng hòa xã hội chủ nghĩa Việt Nam*	"***Land Law"*** No. 45/2013/QH13, approved by Vietnam Assembly on 29th Nov 2013	National Assembly
Legal Act 39	LA – 39	*Quyết định số 18/2007/QĐ-TTg của Thủ tướng Chính phủ **"Phê duyệt Chiến lược phát triển lâm nghiệp Việt Nam 2006 – 2020"**, ngày 05 tháng 02 năm 2007*	Decision No. 18/2007/QĐ-TTg on ***"Approving the Vietnam Forestry Development Strategy 2006 – 2020"***, issued by Vietnam Prime Minister on 5th	Prime Minister

			Feb 2007	
Legal Act 40	LA - 40	Nghị định số 163/1999/NĐ-CP của Chính phủ **: Về giao đất, cho thuê đất lâm nghiệp cho tổ chức, hộ gia đình và cá nhân sử dụng ổn định, lâu dài vào mục đích lâm nghiệp**ban hành ngày 16 tháng 11 năm 1999	Decree No. 163/1999/NĐ-CP on "allocating and leasing forestry land to organizations, households and individuals for long-term utilization for forestry purpose" issued on 16th Nov 1999 by Vietnam Prime Minister	Prime Minister
Legal Act 41	LA - 41	Nghị định số 23/2006/NĐ-CP ngày 3 tháng 3 năm 2006 về việc "***Thi hành luật Bảo vệ và Phát triển rừng***" của Chính phủ	Decree No. 23/2006/NĐ-CP on "***Executing the Law of forest protection and development***", issued on 3rd Mar 2006 by Vietnam Prime Minister	Prime Minister
Legal Act 42	LA - 42	Thông tư số 38/2007/TT-BNN ngày 25 tháng 4 năm 2007 về "***hướng dẫn trình tự, thủ tục giao rừng, cho thuê rừng, thu hồi rừng cho tổ chức, cá nhân, hộ gia đình và cộng đồng dân cư thôn***" của Bộ Nông nghiệp và Phát triển nông thôn	Circular No. 38/2007/TT-BNN on ***"guiding procedures for allocation, lease, and withdrawal of forest to organizations, households, individuals and communities"***, issued on 25th Apr 2007 by Ministry of Agriculture and Rural Development	MARD
Legal Act 43	LA - 43	Chỉ thị số 12/2003/C-TTg của Thủ tướng Chính phủ về "***Tăng cường các biện pháp cấp bách để bảo vệ và phát triển rừng***" ngày 16 tháng 5 năm 2003.	Instruction No. 12/2003/CT-TTg on "***Urgent strengthening of methods for Forest Protection and Development***" issued on 16th May 2003 by Prime Minister	Prime Minister
Legal Act 44	LA - 44	Nghị định số 64-CP ngày 27 tháng 9 năm 1993 của Chính Phủ về việc "***Ban hành quy định về giao đất nông nghiệp cho hộ gia đình, cá nhân sử dụng ổn định lâu dài vào mục đích sản xuất nông nghiệp***"	Decree No. 64-CP on "***Promulgating regulations on agricultural land allocation to households, individuals for stable and long-term use for agricultural purpose***", issued on 27th Sep 1993 by Vietnam Government	Government
Legal Act 45	LA - 45	Thông tư No. 346/1998/TT-TCĐC ngày 16 tháng 3 năm 1998 của Tổng cục địa chính về "***Hướng dẫn thủ tục đăng ký đất đai, lập hồ sơ địa chính và cấp giấy***	Circular No. 346/1998/TT-TCDC on "***Instruction for procedures of land registration, setting up land-survey document, and licensing land-use***	General Department of

		chứng nhận quyền sử dụng đất" do Tổng cục địa chính ban hành	***right certificate***" issued on 16th Mar 1998 by General Department of Land Survey	Land Survey
Legal Act 46	LA – 46	Chỉ thị 462 của Thủ tướng Chính phủ ngày 11 tháng 9 năm 1993 về việc "***Quản lý chặt chẽ việc khai thác vận chuyển và xuất khẩu gỗ***"	Instruction No. 462-TTg on "***strict management of wood exploitation, transportation and exportation***", issued on 11th Sep 1993 by Prime Minister	Prime Minister
Legal Act 47	LA - 47	Thông tư số 70/2007/TT-BNN về việc "***Hướng dẫn xây dựng và tổ chức thực hiện Quy ước bảo vệ và phát triển rừng cộng đồng dân cư thô***n", ngày 1 tháng 8 năm 2007	Circular No. 70/2007/TT-BNN on "Guidelines for construction and implementation of Forest Protection and Development Regulations", issued by MARD on August 1st 2007	MARD
Legal Act 48	LA – 48	Quyết định số 106/2006/QĐ-BNN, ngày 27 tháng 11 năm 2006 của Bộ Nông nghiệp và Phát triển Nông thôn về "***Hướng dẫn quản lý rừng cộng đồng dân cư thôn"***	Decision No. 106/2006/QD-BNN on ***"Guidelines for Community Forest Management at hamlet level"***, issued on Nov 27th 2006 by MARD	MARD
Legal Act 49	LA - 49	Quyết định số 59/2005/QĐ-BNN ngày 10 tháng 10 năm 2005 của Bộ Nông nghiệp và Phát triển Nông thôn về việc ban hành "***Quy định về kiểm tra, kiểm soát lâm sản"***	Decision No.59/2005/QD-BNN on promulgating "***Regulation of forest product inspection and control"***, issued on October 10th 2005 by MARD	MARD
Legal Act 50	LA – 50	Quyết định số 44/2006/QĐ-BNN ngày 01 tháng 6 năm 2006 của Bộ Nông nghiệp và Phát triển Nông thôn về việc ban hành ***"Quy chế quản lý và đóng búa bài cây, búa kiểm lâm"***	Decision No.44/2006/QD-BNN on promulgating ***"Management regulations of the forest ranger's hammer mark for tree elimination"***, issued on June 1st 2006 by MARD	MARD
Legal Act 51	LA - 51	Quyết định số 40/2005/QĐ-BNN của Bộ Nông nghiệp và Phát triển nông thôn ngày 7 tháng 7 năm 2005 về việc "***Ban hành quy chế về khai thác gỗ và lâm sản khác"***	Decision No.40/2005/QD-BNN on promulgating ***"Regulations on exploitation of timber and other forest products"***, issued on July 7th 2005 by MARD	MARD
Legal	LA - 52	Quyết định số 59/2014/QĐ-TTg của Thủ tướng Chính phủ ngày 22 tháng 10 năm 2014 về ***"Quy định chức năng,***	Decision No.59/QD-TTg on stipulating ***"functions, responsibilities, authorities and structure of***	Prime

Act 52		***nhiệm vụ, quyền hạn và cơ cấu tổ chức của Tổng cục Lâm nghiệp thuộc Bộ Nông nghiệp và Phát triển Nông thôn"***	***Vietnam Forestry Administration under the management of MARD",*** issued on October 22nd 2014 by Vietnam Prime Minister	Minister
Act 53	LA - 53	Quyết định số 07/2012/QĐ-TTg của Thủ tướng Chính phủ ngày 8 tháng 2 năm 2012 về việc "***Ban hành một số chính sách tang cường công tác bảo vệ rừng"***	Decision No.07/2012/QĐ-TTg on ***"Promulgating policies to improve the forest protection task"***, issued on February 8th 2012 by Vietnam Prime Minister	Prime Minister
Act 54	LA - 54	Quyết định số 184/HĐBT của Hội đồng Bộ trưởng ngày 6 tháng 11 năm 1984 về việc "***Đẩy mạnh giao đất giao rừng cho tập thể và nhân dân trồng cây gây rừng"***	Decision No.184/HDBT on "***Enhancement of forestland allocation to people and community for afforestation***", issued on November 6th 1984 by Cabinet Council	Cabinet Council
Act 55	LA - 55	Chỉ thị số 38/2005/CT-TTg của Thủ tướng Chính phủ ngày 05 tháng 12 năm 2005 về việc "***Rà soát, quy hoạch lại ba loại rừng***"	Decree No.38/2005/CT-TTg on "***Checking and re-planning three types of forest"***, issued on December 5th 2005 by Prime Minister	Prime Minister
Act 56	LA - 56	Nghị định số 09/2006/NĐ-CP ngày 16 tháng 1 năm 2006 của Chính phủ về "***Phòng cháy chữa cháy rừng***"	Decree No.09/2006/ND-CP on "***Regulations of forest fire prevention and fight***", issued on 16th January 2006 by Government	Government
Act 57	LA – 57	Công văn số 815/CV-QLR ngày 12 tháng 6 năm 2007 của Cục Lâm nghiệp về việc "***Hướng dẫn mô hình cấu trúc rừng mong muốn cho rừng gỗ tự nhiên của cộng đồng***"	Official dispatch No.815/CV-QLR on "***Instruction for designing model of forest-desired structure over the natural forests of community***", issued on 12th June 2007 by Forestry Department	Forestry Department
Act 58	LA - 58	Quyết định số 186/2006/QĐ-TTg của Thủ tướng Chính phủ ngày 14 tháng 8 năm 2006 về việc "***Ban hành quy chế quản lý rừng"***	Decision No.186/2006/QD-TTg on "***Enforcement of forest management regulation***", issued on 14th August 2006 by Prime Minister	Prime Minister
Act 59	LA – 59	Thông tư số 38/2014/TT-BNNPTNT của Bộ Nông nghiệp và Phát triển Nông thôn ngày 3 tháng 11 năm 2014 về "***Hướng dẫn phương án quản lý rừng bền vững***"	Circular No.38/2014/TT-BNNPTNT on "***Instruction for sustainable forest management plan***", issued on 3rd November 2014 by MARD	MARD
Act 60	LA - 60	Công văn số 2324/BNN-LN ngày 21 tháng 8 năm 2007 của Bộ Nông nghiệp và Phát triển Nông thôn về việc "***Hướng dẫn các chỉ tiêu và thủ tục khai thác rừng cộng đồng***"	Dispatch No.2324/BNN-LN on "***Instruction for technical standard and exploitation procedures of community forest***", issued on 21st August 2007 by MARD	MARD

Appendix 2: Assessment on the outcomes of community forestry – A general guideline

1. Economic outcomes

Benefit for direct forest users	Quantity (time series, if applicable)
1. Forest products (including land-based products)	
- Fodder - Fuel wood - Poles/lumber - Timber - NTFPs (Foods, medical plants) - Agriculture crops - Others	
2. Money	
- Subsidy - Grant - Loan - Salary - Income from selling forest products	
3. Services and community development	
- School - Health posts - Road - Irrigation canal/ Dams - Community building (cultural house, FUGRs office) - Temporary bridges - Others	

2. Ecological outcomes

Inventory and monitoring tools	Prior	After
1. Community-Ecosystem (stand level) - Aerial photographs, remote sensing - Ground-level photo stations - Physical habitat measures and resource inventories - Habitat suitability indices (HSI) - Censuses		
2. Population – Species - Censuses (counts, captures, signs, radio tracking) - Remote sensing - HSI - Species habitat modeling - Population viability analysis		
3. Field observations and CFUG's review of existing programs (e.g. management plan review) What is written on biodiversity/forest health or related terms in the management plan of the CFs under study? What are the justifications in such statement? Is there any forest blocks allocated for biodiversity (species, habitat….) conservation, watershed protection? Composition of vegetation? Any other field observation?		

3. Social outcomes

Access	Level	How is defined
1. Access to information on forests	High – Low	
2. Access to decision-making process		
- Forest planning - Forest management - Forest use - Marketing - Others	High – Low	- No regulation - Regulated through: group, memberships, agreements, regulations, rights, laws, etc.
3. Access to forest land and resources	Open access, limited, bans, permits	

* There are only preconditions, the most important thing whether these are implemented. Regulations, permits, bans might have put in place in particular CFs, but it is possible that users are not following such. In this case empowerment is considered as high.

Outcomes	**Low**	**middle**	**high**
Social outcome *(individual forest user)*	no access to information, decision-making and to the forest	Access to information and decision-making	Access to the forest Based on substantial individual user rights, substantial access to decision making (or illegal but substantial access)
Economical outcome *(individual forest user)*	no improvement in livelihood	some improvement in livelihood	significant improvement in livelihood of the individual forest user
Ecological outcome *(corresponding forest)*	no or negative improvement on forest growth and biodiversity	improvement on forest growth	Improvement on biodiversity

Outcome	**Definition**	**Key facts**
Social Outcome:	Empowerment of direct forest users	▪ Access to forest information ▪ Access to decision making ▪ Access to forest land and resources

Low	No empowerment	No access to information's, decision making and access to forest land the resources
Middle	Some empowerment	Limited access to information, decision making and forest land and resources
High	Full empowerment	Full access to information, decision making and forest land and resources
Economical Outcome:	Poverty alleviation of direct forest users	▪ Forest products ▪ Cash money ▪ Community development
Low	No improvements in livelihood	No access to forest products and no cash money
Middle	Slightly improved livelihood	Access to community development which was financed through community forestry and or some small financial pay
High	Significantly improved livelihood	Access to community development which was financed through community forestry and or financial pay outs which significantly improve the live standard
Ecological outcome:	Improved forest condition	▪ Forest growth ▪ Biodiversity
Low	No improvements on forest growth and biodiversity or reduced forest resources	No management or uncontrolled management activities
Middle	A sustainable managed forest or increased ground forest surface	Resource assessments, inventories, management plans, controlled harvesting activities, protection activities, e.g., fire management activities
High	Improved or an stable natural ecosystem related biodiversity	acceptable proof, like a monitoring system or report

Appendix 3: LIST OF INTERVIEWEES

No.	Name of Interviewees	Type of Actors	Position	Date
	SON LA PROVINCE			
1	Vuong Van Quynh	University	Chief of Environment and Forest Ecology Insititute, Forestry University of Vietnam	10 Oct 2012
2	Phung Van Khoa	University	Deputy of Post Graduate Faculty, Forestry University of Vietnam	11 Oct 2012
3	Tran QuangBao	University	Deputy of Training Department, Forestry University of Vietnam	11 Oct 2012
4	Vu Duc Thuan	Forest Administration2	Chief of forestry development department, Sonla Province	20 Oct 2012
	ThuanChau District			
5	Truong Cong Phuong	Donor	Chief Coordinator, Management Board of KFW7 project, Thuanchau district	5 Nov 2012
6	Luong Hong Phuong	Donor	An officer, Management board of KFW7 project, Thuanchau district	5 Nov 2012
7	Quang Van Huong	Forest administration 3	Vice director of Thuanchau Forest Protection Section	5 Nov 2012
8	Pham Xuan Truong	Forest administration 3	An officer of Thuanchau Forest Protection Section	5 Nov 2012
9	Deo Van Ngoc	Village administration	Chairman of Muoinoi Commune	6 Nov 2012
10	Lo Van Toan	Village administration	Vice chairman of Muoinoi Commune, Thuanchau district	6 Nov 2012
11	Lo Van Ly	Traditional Authority	Chief of Muoinoi Commune, Thuanchau district	6 Nov 2012
12	Deo Van Huong	Forest user group	Group Leader of forest patrol, Muoinoi Commune, Thuanchau district	6 Nov 2012
13	Lanh Van Dinh	Village administration	An officer of Chiengbom Commune	7 Nov 2012
14	Ha Van Dung	Village administration	Chairman of Chiengbom Commune	7 Nov 2012
15	Lo Van Chieng	Traditional authority	Chief of Hon hamlet, leader of CF management board	7 Nov 2012
16	Tran Quoc Hung	District government	Chief of Agriculture department, Thuanchau district	7 Nov 2012
	Bac Yen District			
17	Mr. Thuan	Forest administration	Chief of Bac Yen forest protection section	8 Nov 2012
18	Tran Duc Chiem	District government	Deputy of Environment and resource department	8 Nov 2012
19	Tran QuangTu	District government	Deputy of Agriculture department	8 Nov 2012
20	Pham Van Hung	Donor	Vice director of management board of KFW7, Chief coordinator	9 Nov 2012
21	Vi Van Phu	Forest administration 3	An officer of Forest Protection Section, Muongkhoa Commune	9 Nov 2012

22	Lu Van Chuyen	Village administration	Vice chairman of Muongkhoa commune, a member of KFW7 project	10 Nov 2012
23	Lu Van Thang	Village administration	An agriculture and forestry officer, Muongkhoa commune	10 Nov 2012
24	Quang Van Quy	Traditional authority	Chief of Chen hamlet, leader of CF management board	10 Nov 2012
25	Lu Van Bieu	Forest user group	Group leader of forest patrol, Muongkhoa commune	10 Nov 2012
26	Lo Van Au	Village administration	Vice chairman of Phieng Ban commune	11 Nov 2012
27	LuongThi Quyen	Village administration	Leader of Agriculture and Forestry board	11 Nov 2012
28	Hoang Van Dai	Traditional authority	Chief of hamlet, leader of CF management board	11 Nov 2012
29	Luong Van Chien	Forest user group	Group leader of forest patrol, Phieng Ban commune	12 Nov 2012
	Moc Chau District			
30	Sa DuyTien	Forest enterprise	Director of Moc Chau forest enterprise	15 Nov 2012
31	Hoang Van Cuong	Donor	An officer of management board of KFW7 project, Moc Chau district	15 Nov 2012
32	Duong Thi Ha	Forest enterprise	An officer of Moc Chau forest enterprise	15 Nov 2012
33	Tran Duc Hien	District government	Deputy of Moc Chau agriculture department	15 Nov 2012
34	Nguyen Huu Hung	District government	An officer of Moc Chau agriculture department	15 Nov 2012
35	Mong Van Binh	Village administration	Chairman of Long Sap commune	16 Nov 2012
36	Lo Van Trong	Traditional authority	Chief of A Ma hamlet, leader of CF management board	16 Nov 2012
37	Luong Van Cuong	Village administration	An officer of Long Sap people's committee board	
38	Ngo Thi Trung Thanh	Donor	Chief coordinator of KFW7 project, an officer of Moc Chau forest enterprise	17 Nov 2012
39	Mr. Chien	Forest Administration	A forest ranger of Xuan Nha Natural Reserve Area	22 Nov 2012
40	Mr. Truong	Forest Administration	A forest ranger of Xuan Nha Natural Reserve Area	22 Nov 2012
	Yen Chau District			
41	Hoang Van Dao	Forest administration	Director of forest protection section	28 Nov 2012
42	Lai Huu Hung	District government	An officer of Agriculture Department	28 Nov 2012
43	Nguyen Ngoc Dung	District government	Chief of Environment and resource department	29 Nov 2012
44	Lo Thi Sim	Forest administration	A forest ranger, Yen Chau Forest protection section	29 Nov 2012
45	Nguyen Nhu Viet	Forest administration	Chief of Forest protection station, Tu Nang commune	30 Nov 2012
46	Lo Van Nhe	Village administration	Chairman of Tu Nang commune	30 Nov 2012
47	Hoang Van Thuan	Traditional authority	Chief of Coc Lac hamlet, leader of CF management board, Tu Nang	30 Nov 2012

			commune	
48	Hoang Van Hien	Forest user group	Group leader of CF patrol	30 Nov 2012
49	Dao Xuan Son	Forest administration	A forest ranger, Chieng Hac Forest protection section	31 Nov 2012
50	Lo Van Doi	Village administration	Chairman of Chieng Hac commune	31 Nov 2012
51	Ha Van Thanh	Village administration	Vice chairman of Chieng Hac commune	31 Nov 2012
52	Ha Van Thuong	Village administration	An officer	31 Nov 2012
53	Ha Van Phanh	Traditional authority	Chief of Cang hamlet, group leader of CF management board	1 Dec 2012
54	Lu Van Dam	Forest user group	Cashier of CF management board, leader of CF patrol team	1 Dec 2012
55	Me Van Hong	Village administration	Chairman of Chieng Khoi commune	3 Dec 2012
56	Hoang Van Quang	Traditional authority	Chief of Ngoang hamlet, group leader of CF management board	3 Dec 2012
57	Ha Van Keo	Forest user group	Vice leader of CF patrol team	3 Dec 2012
58	Hoang Van Kieu	Forest user group	Villager	3 Dec 2012
59	Ha Van Truong	Forest user group	Villager	3 Dec 2012
60	Lo Van Han	Forest user group	Villager	3 Dec 2012
61	Lo Van Quy	Forest user group	Villager	3 Dec 2012
62	Hoang Van Minh	Village administration	Chairman of Chieng Dong commune	4 Dec 2012
63	Lo Van Dai	Traditional authority	Chief of Na Pan hamlet, leader of CF management board	4 Dec 2012
64	Lo Van Tran	Forest user group	Villager, a representative of received-forest household	4 Dec 2012
65	Nguyen Van Thuan	Forest administration	A forest ranger, Chieng Dong forest protection section	4 Dec 2012
66	Duong Hong Hai	Forest administration	A forest ranger, Chief of legislation department, Yen Chau forest protection section	7 Dec 2012
67	Nguyen Van Kien	Donor	An officer of KFW project management board	1 Jan 2013
68	Le Hong Hai	Consultant	An independent advisor of KFW7 project	18 Feb 2013
	HOA BINH PROVINCE			
69	Nguyen Thach Lam	Donor	A KFW coordinator in Hoa Binh province	25 Feb 2014
	Kim Boi District			
70	Nguyen Manh Dan	Forest Administration	Head of Forest Protection Section	12 Mar 2014
71	Mr. Tuyen	Forest Administration	Deputy of Forest Protection Section	12 Mar 2014

72	Bui Thanh Chuong	Village Administration	Chairman of Cuoi Ha commune	13 Mar 2014
73	Quach Cong Minh	Traditional Authority	Chief of Mu hamlet	13 Mar 2014
74	Mr. Phong	Forest Administration	A Forest ranger, Kim Boi Forest Protection Section	13 Mar 2014
75	Quach Cong Quy	Village Administration	Chairman of Kim Tien commune	14 Mar 2014
76	Bui Duc Thao	Forest Patrol Team	Villager	14 Mar 2014
77	Bui Van Thien	Forest Patrol Team	Villager	14 Mar 2014
78	Bui Van Mao	Forest Patrol Team	Villager	14 Mar 2014
79	Bui Nhu Hien	Traditional Authority	Chief of Vo Khang hamlet	15 Mar 2014
80	Bui Manh Tuan	Traditional Authority	Deputy of Vo Khang hamlet	15 Mar 2014
81	Bui Van Thanh	Forest Patrol Team	Villager	15 Mar 2014
82	Mr. Minh	Forest Administration	A forest ranger, Kim Boi Forest Protection Section	15 Mar 2014
83	Bui Van Yen	Village Administration	Chairman of Kim Son commune	18 Mar 2014
84	Bui Van Thu	Traditional Authority	Chief of Mo hamlet	18 Mar 2014
85	Bui Van Vien	Traditional Authority	Deputy, and head of forest patrol team, Mo hamlet	18 Mar 2014
86	Bui Van Thien	Forest Patrol Team	Villager	18 Mar 2014
87	Mr. Quynh	Forest Administration	A forest ranger, Kim Boi Forest Protection Section	19 Mar 2014
88	Bui Van Hieu	Forest Patrol Team	Villager	19 Mar 2014
89	Dinh Cong Du	Forest User Group	Chief of San hamlet, head of CF management board	19 Mar 2014
90	Bach Tien Sy	Village Administration	Chairman of Hop Dong commune	19 Mar 2014
91	Ngo Van Quy	Forest Administration 2	Director of Thuong Tien Natural Reserved Area	20 Mar 2014
92	Nguyen Manh Tuyen	Forest Administration 2	A technical officer of Thuong Tien Natural Reserved Area	20 Mar 2014
93	Dinh Tat Thang	District government	Chief of Kim Boi Rural Department, and Vice Director of KFW7 provincial project	22 Mar 2014
94	Nguyen Viet Hoa	District government	Chief of Kim Boi Environment and Resource Department	22 Mar 2014
	Tan Lac District			
95	Mr. Cham	Forest Administration	Head of Tan Lac Forest Protection Section	6 May 2014
96	Mr. Dinh	Forest Administration	A forest ranger, Tan Lac Forest Protection Section	7 May 2014
97	Bui Van Ben	Village Administration	Deputy of Quyet Thang commune	7 May 2014

98	Bui Van Son	Traditional Authority	Deputy of Bac Hung hamlet, a member of the forest patrol team	7 May 2014
99	Bui Van Vien	Forest Patrol Team	A villager, head of Bac Hung forest patrol team	7 May 2014
100	Bui Van Chung	Forest Administration	A contract forest ranger at communal level	8 May 2014
101	Bui Van Phong	Village Administration	Chairman of Ngo Luong commune	9 May 2014
102	Bui Van Bao	Forest Patrol Team	Villager, head of the forest patrol team	9 May 2014
103	Bui Van Quang	Forest Patrol Team	Villager, vice head of the forest patrol team	9 May 2014
104	Nguyen Thai Son	Forest Administration 2	A forest ranger of Ngo Luong – Ngoc Son Natural Reserved Area	9 May 2014
105	Mr. Hung	Forest Administration 2	A forest ranger of Ngo Luong – Ngoc Son Natural Reserved Area	9 May 2014
106	Bui Thanh Truyen	Village Administration	Chairman of Nam Son commune	12 May 2014
107	Nguyen Thanh Xuan	Forest Administration	A forest ranger of Tan Lac Forest Protection Section	12 May 2014
108	Dinh Van Lung	Forest Patrol Team	Villager, vice head of Nam Son Forest Patrol Team	12 May 2014
109	Nguyen Tien Ngoc	Forest Administration 2	A forest ranger of Ngo Luong – Ngoc Son Natural Reserved Area	12 May 2014
110	Vu Quang Hung	District Government	Chief of Tan Lac Rural Department	16 May 2014
111	Bui Van Nho	District Government	Deputy of Tan Lac Rural Department	16 May 2014
112	Mr. Hien	District Government	Chief of Tan Lac Environment and Resource Department	17 May 2014
113	Mrs. Nhung	District Government	An officer of Environment Resource Department	17 May 2014

Appendix 4: Questionnaires

Questionnaire 1: Stakeholder identification, power assessment

1. General information of stakeholder:

- Name of stakeholder: …… Age: …… Male/Female: .....
- Position: ……. Address: .....
- How many members are there in your organization? .....
- Please, mention about your tasks/responsibility in CF: .....

.....

2. CF is supported by many actors, what is/are your experience(s): .....

- Please, mention the actors involving to the CF processes (in the last few years): .....
- Many actors deal with CF, base on your collaboration and experiences, please mention the actors whom you have contacted with: .....
- How often do you contact with them:
  + Frequent: ……. time / time units
  + Sometimes: ……. time / time units
- Which actors give you the information? .....
- How good is the information? .....

☐ No inf. (0) ☐ Acceptable inf. (1) ☐ Good inf. (2) ☐ Very good inf. (3)

3. Power elements:

a. Trust: From your experiences and collaborations with actors, please put the level and reasons of trust to them in order:

☐ Not at all (0) ☐ Less trust (1) ☐ Trust (2) ☐ Full trust (3)

- Have you ever verified supplied information?

☐ Always (0) ☐ Never (1) ☐ Sometimes (2)

b. Incentive: Please mention who is (are) the stakeholder(s) giving you supports (financial, technical, material, and knowledge):

0 no support

1 support provided

c. Coercion: Please, mention who is / are the stakeholder(s) absolutely necessary in order tosecure community forestry activities? (For example; managing to receive theapproval for forest use)

0 not necessary

1 necessary

Questionnaire 2: Qualitative assessment (applied to powerful actors)

Name of the respondent: ..... Date of interview: .....

1. Please, mention some information about your task in community forestry: .....

.....

2. Please, mention about the legal status of your institution: .....

3. Relying on your experience, how do you assess about the importance of community forest? .....

.....

4. Based on your experience and collaboration with other actors, who are the most helpful actors to you and why? .....

5. **Human resource:** How many staffs (full-time and part-time) are there in your organization? .....

6. **Financial resources:**

- Who finances to conduct CF activities?

☐ State ☐ Membership fee

☐ Donor (please, names it) .....

☐ Donations (detail) .....

☐ Others: .....

- Your organization is funded by:

☐ State ☐ Membership fee

☐ Donor (please, names it) .....

☐ Donations (detail) .....

☐ Others: .....

7. **Interests:**

What will be optimal results from CF that you expect? .....

☐ Social outcomes ☐ Ecological outcomes ☐ Economic outcomes

Questionnaire 3: CF's outcome assessment

A. Economic outcomes:

I. Products and services:

1. Please, mention the products that collected from community forests within the past years as following table:

Products	Quantity (time series, if applicable)				
	2008	2009	2010	2011	2012
Fodder					
Fuel wood					
Poles/Lumber					
Timber					
Medicine plants					
NTFPs					
Others					

2. Please, mention community development services carried out by FUG:

Service	Investment	Access to the direct forest user
Health posts		
Rural electrification		
School		
Community buildings (e.g. FUG office building)		
Roads		
Irrigation system (canal, dams)		
Drinking water		
Others (details)		

II. Incomes and expenditures:

1. Income status of the FUG:

Income source	Year	Amount		Access of the direct forest users (if applicable)
		VNs	Euro	
Income from users				
Income from products (forest products, access permit…)				
Support from Forest administration				
Support from donors				
Other sources (donations, punishment charges,				

from confiscated products)				

b. The expenditure status of the FUG (will be collected from annual audit and financial reports and verified through interviews)

Themes of expenditure			
Internal administration and office management of FUG or user's committee			
Forest operations			
Forest management (protection, plantation, inventory…)			
Community development			
Livelihood promotion programs			
Social programs			
Education			
Supports to other institutions			
Other expenditures (entertainment, donations, etc.)			

B. Ecological outcomes

1. Total area of community forest:

Number of blocks: ..... their respective area:

No.	Prior	After (now)
a. Community-Ecosystem (stand level) - Aerial photographs / remote sensing - Ground-level photo stations - Physical habitat measures and resource inventories - Habitat suitability indices (HSI) - Censuses		
b. Population species censuses (counts, signs, capture, radio-tracking) - Remote sensing and HSI - Species-habitat modeling - Population viability analysis		

2. Field observations, CFUG review of existing programs:

- What is written about biodiversity/forest health or related terms in the management plan of CFs under study?

- What are the justifications in such statements?

- Is there any forest block allocation for biodiversity (species) conservation, watershed management?

- Composition of tree species in the forest?

- Others

Appendix 5: Calculation formulas of the power elements

I. Quantifying the value of power elements

1. Dominant Information: $T = \frac{T_q}{T_v}$ In which:

- Tq refers to the quality of community forestry information provided by partner actors and assigned the values 3, 2, 1 and 0 equaling to: very good information; acceptable or good information; unacceptable information; and no information respectively.
- Tv refers to the verification of provided information done by receiver, assigned the values 2, 1 or 0 equaling to: sometimes, never or always respectively.
- T shows the reliability of a stakeholder to the others in the community forestry network, from full trust, trust and no trust at all.

2. Incentives: - I refers to the supports (finance, materials) provided by partner actors. 0 means no incentive; and 1 means there exists incentives either material; finance or disincentives.

3. Coercion: $C = C_i + C_p$ in which:

- Ci refers to one of the actors need to carry out activities related to the specific community forestry (0 not needed, 1 needed).
- Cp refers to the permission gotten from one of mentioned actors to carry out activities related to the specific community forestry (0 not needed, 1 needed).
- C is coercive power indication (0 no coercive power indication, 1 indication of coercive power, 2 strong coercive power indication).

II. Identifying group of powerful actors – Qualitative calculation

1. Percentage of relative power - Xi

- Percentage of relative power – Xi (Dominant information)

$$Xi = \frac{Total\ accumlated\ value\ of\ stakeholder\ \times 100}{(Total\ number\ of\ stakeholders\ -1) \times 3(maximum\ scale\ of\ the\ measurement)}$$

- Percentage of relative power – Xi (Incentive)

$$Xi = \frac{Total\ accumlated\ value\ of\ stakeholder\ \times 100}{(Total\ number\ of\ stakeholders\ -1) \times 1(maximum\ scale\ of\ the\ measurement)}$$

- Percentage of relative power – Xi (Coercion)

$$Xi = \frac{Total\ accumlated\ value\ of\ stakeholder\ \times 100}{(Total\ number\ of\ stakeholders\ -1) \times 1(maximum\ scale\ of\ the\ measurement)}$$

Xi is defined as the percentage of maximum amount that an actor gets from the evaluation of the other actors in the network.

2. Individual Concentration Value – hi

$$hi = \frac{X_i}{\sum_n^1 Xi}$$

Where, Xi is the sum of answers per actor for one power element, $0 < Xi \leq (n-1) \times highest\ possible\ answer\ in\ the\ corresponding\ Likert\ scale\ (1\ or\ 3), for\ i = 1, \ldots\ldots, n$

. $\sum_n^1 Xi$ is total given answers per power element.

3. Concentration Ratio – Cri

- r is the position of the sorted ratio of power per actor (hi); the sorting starts with highest hi value until the lowest, equal values can be sorted continually anyway, for r = 1,……, n

- Cri of stakeholder 1 = hi of stakeholder 1

- Cri of stakeholder 2 = Cri of stakeholder 1 + hi of stakeholder 2

- Cri of stakeholder 3 = Cri of stakeholder 1 + hi of stakeholder 2 + hi of stakeholder 3

- Cri of stakeholder n = Cri of stakeholder 1 + hi of stakeholder 2 + ……. + hi of stakeholder n

4. Dominant Degree Value – Di

$$Di = \frac{(C_{ri})^2}{i} + \frac{(1 - C_{ri})^2}{n - i}$$

Where, Cri is concentration ratio of each power element of respective stakeholder; 'i' refers to the position of stakeholder after sorting; n refers to the total number of actors in the network.

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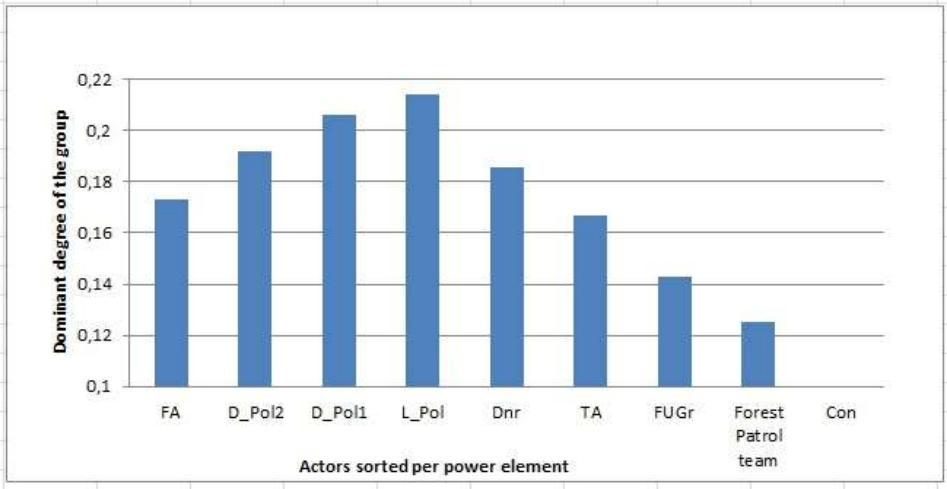
	A	B	C	D	E	F	G	H	I	J	K	L	M
				1	2	3	4	5	6	7	8	9	
		Coercion	Power inc	FA	D_Pol2	D_Pol1	L_Pol	Dnr	TA	FUGr	Forest Pat	Con	
			Xi	112,5	75	62,5	50	12,5	12,5	0	0	0	325
			hi	0,346154	0,230769	0,192308	0,153846	0,038462	0,038462	0	0	0	
			Cri	0,346154	0,576923	0,769231	0,923077	0,961538	1	1	1	1	
			Dmi	0,173262	0,191991	0,206114	0,214201	0,185281	0,166667	0,142857	0,125	#DIV/0!	



Appendix 6: Summary of power diagnosis

I_Dnr involvement	Group of forest users (village)	No. of actors	Power element	FA	Local Pol	FUGR	I_Dnr	L_Dnr	FPtr	TA	D_Pol1	D_Pol2	Con	Fb	Ext	FA2
YES	Sang (Muoi Noi)	9	T	1	0	1	1		0	1	0	0	1			
			I	1	0	1	1		0	0	0	0	0			
			C	1	1	1	1		0	0	1	1	0			
	Hon (Chieng Bom)	9	T	1	0	1	1		0	1	0	0	1			
			I	1	0	1	1		0	0	0	0	0			
			C	1	1	1	1		0	0	1	1	0			
	Chen (Phieng Ban)	9	T	1	0	1	1		0	1	0	0	1			
			I	1	0	1	1		0	0	0	0	0			
			C	1	1	1	1		0	0	1	1	0			
	Cao Da (Muong Khoa)	9	T	1	0	1	1		0	1	0	0	1			
			I	1	0	1	1		0	1	0	0	0			
			C	1	1	1	1		0	0	1	1	0			
	A Ma (Long Sap)	10	T	1	0	1	1		0	1	0	0	1	0		
			I	1	0	1	1		0	0	0	0	0	1		
			C	1	1	1	1		0	0	1	1	0	1		
	San (Hop Dong)	8	T	1	1	0	1		0	1	0	0				
			I	1	0	0	1		0	1	0	0				
			C	1	1	0	0		0	1	1	1				
NO	Coc Lac (Tu Nang)	8	T	1	1	1		0	0	1	0	0				
			I	1	0	1		1	0	0	0	0				
			C	1	1	1		1	0	0	1	1				
	Cang (Chieng Hac)	9	T	1	1	1		0	0	1	0	0			0	
			I	1	0	1		1	0	0	0	0			0	
			C	1	1	1		1	0	0	1	1			0	
	Ngoang (Chieng Khoi)	8	T	1	1	1		0	0	1	0	0				
			I	1	0	1		1	0	0	0	0				

			C	1	1	1		1	0	0	1	1			
	Na Pan (Chieng Dong)	8	T	1	0	1		0	0	1	0	0			
			I	1	0	1		1	0	0	0	0			
			C	1	1	1		1	0	0	1	1			
	Mu (Cuoi Ha)	7	T	1	1			1	0	1	0	0			
			I	1	0			1	0	0	0	0			
			C	1	1			0	0	1	1	1			
	Vo Khang (Kim Tien)	8	T	1	1			1	0	1	0	0			0
			I	1	0			1	0	1	0	0			1
			C	1	1			0	0	0	1	1			1
	Mo (Kim Son)	8	T	1	1	1		1	0	1	0	0			
			I	1	0	0		1	0	1	0	0			
			C	1	1	0		0	0	1	1	1			
	Bac Hung (Quyet Chien)	6	T	1	1				0	1	0	0			
			I	1	0				0	1	0	0			
			C	1	1				0	1	1	1			
	Bo (Ngo Luong)	7	T	1	1				0	1	0	0			0
			I	1	1				0	1	0	0			1
			C	1	1				1	1	1	1			1

Note: '1' indicates 'powerful'; '0' indicates 'not powerful'; blank is not involved

Appendix 6: Photos of community forestry activities in the research sites

Pic 01: Pluck-rice machine

Pic 02: Shell-corn machine

Pic 03: Furniture equipped by KfW7

Pic 04: Big tree cut for fuel wood

Pic 05: communal house of culture

Pic 06: road for travel of local people

Pic 07: Illegal logging

Pic 08: sloping cultivation

Pic 09: Corncob used for fuel

Pic 10: fuel wood in blocks

Appendix 7: Qualitative and Quantitative data of Hoa Binh and Son La case studies

1. Mu CF, Cuoi Ha commune

***Power elements**

Actor classification	Power element: Trust			Power element: Incentive			Power element: Coercion		
	QT	QL	R	QT	QL	R	QT	QL	R
FA	2	+	2	2	+	2	2	+	2
Local Pol	1	+	2	1	-	1	2	+	2
N_Dnr	2	+	2	2	+	2	1	-	1
FPtr	1	-	1	1	-	1	1	-	1
TA	2	+	2	1	-	1	1	+	2
D_Pol1	1	0	1	1	-	1	2	+	2
D_Pol2	1	0	1	1	-	1	2	+	2

- Group of powerful actors:	2	- Not checked:	0
- Group of less powerful actors:	1	- Quantitative data	QT
- Power source observed:	+	- Qualitative data	QL
- Power source not observed:	-	- Final result (triangulation)	R

*** Dominance factors**

- Dominance factor of dominant information

Power indicator	1	2	3	4	5	6	7
	FA	L_Dnr	TA	Local Pol	FPTr	D_Pol 1	D_Pol 2
Xi	75	63,88889	44,44444	30,55556	16,66667	13,88889	0
hi	0,306818	0,261364	0,181818	0,125	0,068182	0,056818	0
Cri	0,306818	0,568182	0,75	0,875	0,943182	1	1
Dmi	0,174221	0,198709	0,203125	0,196615	0,179533	0,166667	#DIV/0!

- Dominance factor of incentives

Power indicator	1	2	3	4	5	6	7
	L_Dnr	FA	FPTr	TA	Local Pol	D_Pol 1	D_Pol 2
Xi	83,33333	50	16,66667	16,66667	0	0	0
hi	0,5	0,3	0,1	0,1	0	0	0
Cri	0,5	0,8	0,9	1	1	1	1
Dmi	0,291667	0,328	0,2725	0,25	0,2	0,166667	#DIV/0!

- Dominance factor of coercion

Power indicator	1	2	3	4	5	6	7
	D_Pol 1	D_Pol 2	FA	Local Pol	L_Dnr	TA	FPTr
Xi	133,3333	133,3333	116,6667	83,33333	50	50	0
hi	0,235294	0,235294	0,205882	0,147059	0,088235	0,088235	0
Cri	0,25	0,485294	0,691176	0,838235	0,926471	1,014706	1,014706
Dmi	0,15625	0,17074	0,183085	0,184382	0,174373	0,171821	#DIV/0!

*** Outcomes and PIDOs**

Name of CF	Social outcome	Economic outcome	Ecological outcome	Name and code of powerful actors	PIDO Social	PIDO Economic	PIDO Ecological
Mu CF	**Medium**	**Medium**	**Medium**	FA	1	-1	+1
- Local people still extract timber illegally;				Local Pol	1	1	1

- Ask TA's permission for collecting NTFPs; - Grazing livestock under the allocated forest; - There is no plan or inventory of biodiversity;	N_Dnr	1	+1	+1
	TA	-1	+1	1
	D_Pol1	-1	+1	+1
	D_Pol2	-1	0	0
PIDO (Powerful Interest Desired Outcome) (+1) means powerful actors desire a high outcome for final end user (1) means powerful actors desire a medium outcome for final end user (-1) means powerful actors desire a low outcome for final end user (0) means powerful actors do not desire a specific outcome for final end user				

2. Vo Khang CF, Kim Tien commune

*** Power elements**

Actor classification	Power element: Trust			Power element: Incentive			Power element: Coercion		
	QT	QL	R	QT	QL	R	QT	QL	R
FA	2	+	2	2	+	2	2	+	2
Local Pol	1	+	2	1	-	1	2	+	2
N_Dnr	2	+	2	2	+	2	1	-	1
FPtr	1	-	1	1	-	1	1	-	1
TA	2	+	2	1	+	2	1	-	1
D_Pol1	1	0	1	1	-	1	2	+	2
D_Pol2	1	0	1	1	-	1	2	+	2
FA2	2	-	1	2	+	2	1	+	2

- Group of powerful actors:	2	- Not checked:	0
- Group of less powerful actors:	1	- Quantitative data	QT
- Power source observed:	+	- Qualitative data	QL
- Power source not observed:	-	- Final result (triangulation)	R

*** Dominance factors**

- Dominance factor of dominant information

Power indicator	1	2	3	4	5	6	7	8
	FA	FA2	L_Dnr	TA	Local Pol	FPTr	D_Pol 1	D_Pol 2
Xi	73,80952	71,42857	59,52381	54,7619	30,95238	26,19048	16,66667	**0**
hi	0,221429	0,214286	0,178571	0,164286	0,092857	0,078571	0,05	0
Cri	0,221429	0,435714	0,614286	0,778571	0,871429	0,95	1	1
Dmi	0,135627	0,147993	0,155537	0,163801	0,157388	0,151667	0,142857	#DIV/0!

- Dominance factor of incentives

Power indicator	1	2	3	4	5	6	7	8
	L_Dnr	FA	FA2	TA	Local Pol	FPTr	D_Pol 1	D_Pol 2
Xi	71,42857	42,85714	42,85714	14,28571	0	0	0	0
hi	0,416667	0,25	0,25	0,083333	0	0	0	0
Cri	0,416667	0,666667	0,916667	1	1	1	1	1
Dmi	0,222222	0,240741	0,281481	0,25	0,2	0,166667	0,142857	#DIV/0!

- Dominance factor of coercion

Power indicator	1	2	3	4	5	6	7	8
	D_Pol 1	D_Pol 2	Local Pol	FA	TA	L_Dnr	FA2	FPtr
Xi	128,5714	114,2857	100	85,71429	57,14286	42,85714	42,85714	**0**
hi	0,225	0,2	0,175	0,15	0,1	0,075	0,075	0
Cri	0,225	0,425	0,6	0,75	0,85	0,925	1	1
Dmi	0,136429	0,145417	0,152	0,15625	0,152	0,145417	0,142857	#DIV/0!

*** Outcomes and PIDOs**

Name of CF	Social outcome	Economical outcome	Ecological outcome	Name and code of powerful actors	PIDO Social	PIDO Economic	PIDO Ecological
Vo Khang CF	**Medium**	**Medium**	**Medium**	FA	1	-1	+1
- Local people still extract timber illegally; - Ask TA's permission for collecting NTFPs; - Grazing livestock under the allocated forest; - There is no plan or inventory of biodiversity;				Local Pol	1	1	1
				N_Dnr	1	+1	+1
				TA	-1	+1	1
				D_Pol1	-1	+1	+1
				D_Pol2	-1	0	0
				FA2	-1	-1	+1

PIDO (Powerful Interest Desired Outcome)

(+1) means powerful actors desire a high outcome for final end user
(1) means powerful actors desire a medium outcome for final end user
(-1) means powerful actors desire a low outcome for final end user
(0) means powerful actors do not desire a specific outcome for final end user

3. Mo CF, Kim Son commune

*** Power elements**

Actor classification	Power element: Trust			Power element: Incentive			Power element: Coercion		
	QT	QL	R	QT	QL	R	QT	QL	R
FA	2	+	2	2	+	2	2	+	2
Local Pol	1	+	2	1	-	1	2	+	2
N_Dnr	2	+	2	2	+	2	1	-	1
FPtr	1	-	1	1	-	1	1	-	1
TA	1	+	2	1	+	2	2	+	2
D_Pol1	1	0	1	1	-	1	2	+	2
D_Pol2	1	0	1	1	-	1	2	+	2
FUGR	1	+	2	1	-	1	2	-	1

- Group of powerful actors:	2	- Not checked:	0
- Group of less powerful actors:	1	- Quantitative data	QT
- Power source observed:	+	- Qualitative data	QL
- Power source not observed:	-	- Final result (triangulation)	R

*** Dominance factors**

- Dominance factor of dominant information

Power indicator	1	2	3	4	5	6	7	8
	FA	L_Dnr	TA	FUGR	Local Pol	FPtr	D_Pol 1	D_Pol 2
Xi	78,57143	69,04762	42,85714	38,09524	35,71429	28,57143	11,90476	0
hi	0,257813	0,226563	0,140625	0,125	0,117188	0,09375	0,039063	0
Cri	0,257813	0,484375	0,625	0,75	0,867188	0,960938	1	1
Dmi	0,145159	0,161621	0,158333	0,15625	0,156283	0,154663	0,142857	#DIV/0!

- Dominance factor of incentives

Power indicator	1	2	3	4	5	6	7	8
	L_Dnr	FA	FUGR	TA	Local Pol	FPtr	D_Pol 1	D_Pol 2
Xi	100	57,14286	28,57143	14,28571	0	0	0	0
hi	0,5	0,285714	0,142857	0,071429	0	0	0	0
Cri	0,538462	0,824176	0,967033	1,038462	1,038462	1,038462	1,038462	1,038462
Dmi	0,320372	0,344785	0,311935	0,26997	0,216174	0,180473	0,155537	#DIV/0!

- Dominance factor of coercion

Power indicator	1	2	3	4	5	6	7	8
	FA	Local Pol	D_Pol 1	TA	D_Pol 2	FUGR	L_Dnr	FPtr

Xi	142,8571	114,2857	114,2857	100	100	85,71429	28,57143	0
hi	0,208333	0,166667	0,166667	0,145833	0,145833	0,125	0,041667	0
Cri	0,208333	0,375	0,541667	0,6875	0,833333	0,958333	1	1
Dmi	0,132937	0,135417	0,139815	0,142578	0,148148	0,153935	0,142857	#DIV/0!

*** Outcomes and PIDOs**

Name of CF	Social outcome	Economic outcome	Ecological outcome	Name and code of powerful actors	PIDO Social	PIDO Economic	PIDO Ecological
Mo CF	**Medium**	**Medium**	**Medium**	FA	1	-1	+1
- Local people still extract timber and hunting in Community forest illegally; - Free to collect NTFPs for subsistence; - Grazing livestock under the community forest freely; - There is no plan or inventory of biodiversity; - TA decides on liquidation and contribution of confiscated products.				Local Pol	1	1	1
				N_Dnr	1	+1	+1
				TA	1	1	1
				D_Pol1	-1	+1	+1
				D_Pol2	-1	0	0
				FUGR	1	1	1

PIDO (Powerful Interest Desired Outcome)

(+1) means powerful actors desire a high outcome for final end user
(1) means powerful actors desire a medium outcome for final end user
(-1) means powerful actors desire a low outcome for final end user
(0) means powerful actors do not desire a specific outcome for final end user

4. San CF, Hop Dong commune

*** Power elements**

Actor classification	Power element: Trust			Power element: Incentive			Power element: Coercion		
	QT	QL	R	QT	QL	R	QT	QL	R
FA	2	+	2	2	+	2	2	+	2
Local Pol	1	+	2	1	-	1	2	+	2
I_Dnr	2	+	2	2	+	2	1	-	1
FPtr	1	-	1	1	-	1	1	-	1
TA	2	+	2	1	+	2	2	+	2
D_Pol1	1	-	1	1	-	1	2	+	2
D_Pol2	1	0	1	1	-	1	2	+	2
FUGR	1	0	1	1	-	1	2	-	1

- Group of powerful actors:	2	- Not checked:	0
- Group of less powerful actors:	1	- Quantitative data	QT
- Power source observed:	+	- Qualitative data	QL
- Power source not observed:	-	- Final result (triangulation)	R

*** Dominance factors**

- Dominance factor of dominant information

Power indicator	1	2	3	4	5	6	7	8
	FA	I_Dnr	TA	FUGR	Local Pol	FPtr	D_Pol 1	D_Pol 2
Xi	78,57143	69,04762	47,61905	40,47619	35,71429	28,57143	11,90476	0
hi	0,251908	0,221374	0,152672	0,129771	0,114504	0,091603	0,038168	0
Cri	0,251908	0,473282	0,625954	0,755725	0,870229	0,961832	1	1
Dmi	0,143407	0,158237	0,158588	0,157698	0,157073	0,154915	0,142857	#DIV/0!

- Dominance factor of incentives

Power indicator	1	2	3	4	5	6	7	8
	I_Dnr	FA	FUGR	TA	Local Pol	FPtr	D_Pol 1	D_Pol 2
Xi	85,71429	42,85714	28,57143	14,28571	0	0	0	0
hi	0,5	0,25	0,166667	0,083333	0	0	0	0

Cri	0,5	0,75	0,916667	1	1	1	1	1
Dmi	0,285714	0,291667	0,281481	0,25	0,2	0,166667	0,142857	#DIV/0!

- Dominance factor of coercion

Power indicator	1	2	3	4	5	6	7	8
	FA	D_Pol 1	D_Pol 2	Local Pol	FUGR	TA	I_Dnr	FPtr
Xi	128,5714	128,5714	114,2857	114,2857	100	85,71429	57,14286	0
hi	0,176471	0,176471	0,156863	0,137255	0,156863	0,117647	0,078431	0
Cri	0,183673	0,360144	0,517007	0,654262	0,811124	0,928772	1,007203	1,007203
Dmi	0,128934	0,133088	0,135755	0,136898	0,143476	0,146306	0,144974	#DIV/0!

*** Outcomes and PIDOs**

Name of CF	Social outcome	Economic outcome	Ecological outcome	Name and code of powerful actors	PIDO Social	PIDO Economic	PIDO Ecological
San CF	**Low**	**Medium**	**Medium**	FA	1	-1	+1
- Local people almost stop illegal logging, hunting in the community forest; - Only FUGR can collect NTFPs for sale and subsistence; - No Grazing livestock under the community forest; - There is no plan or inventory of biodiversity; - TA decides on liquidation and contribution of confiscated products.				Local Pol	1	1	1
				I_Dnr	1	1	+1
				TA	-1	+1	+1
				D_Pol1	-1	+1	1
				D_Pol2	-1	0	0
PIDO (Powerful Interest Desired Outcome) (+1) means powerful actors desire a high outcome for final end user (1) means powerful actors desire a medium outcome for final end user (-1) means powerful actors desire a low outcome for final end user (0) means powerful actors do not desire a specific outcome for final end user							

5. Bac Hung CF, Quyet Chien commune

*** Power elements**

Actor classification	Power element: Trust			Power element: Incentive			Power element: Coercion		
	QT	QL	R	QT	QL	R	QT	QL	R
FA	2	+	2	2	+	2	2	+	2
Local Pol	2	+	2	1	-	1	2	+	2
FPtr	2	-	1	1	-	1	1	-	1
TA	2	+	2	2	+	2	2	+	2
D_Pol1	1	0	1	1	-	1	2	+	2
D_Pol2	1	0	1	1	-	1	2	+	2
- Group of powerful actors:				2	- Not checked:				0
- Group of less powerful actors:				1	- Quantitative data				QT
- Power source observed:				+	- Qualitative data				QL
- Power source not observed:				-	- Final result (triangulation)				R

*** Dominance factors**

- Dominance factor of dominant information

Power indicator	1	2	3	4	5	6
	FA	TA	Local Pol	FPtr	D_Pol 1	D_Pol 2
Xi	56,66667	40	36,66667	26,66667	13,33333	0
hi	0,326923	0,230769	0,211538	0,153846	0,076923	0
Cri	0,326923	0,557692	0,769231	0,923077	1	1
Dmi	0,197485	0,204419	0,21499	0,215976	0,2	#DIV/0!

- Dominance factor of incentives

Power indicator	1	2	3	4	5	6
	FA	TA	Local Pol	FPtr	D_Pol 1	D_Pol 2
Xi	60	20	0	0	0	0
hi	0,75	0,25	0	0	0	0
Cri	0,75	1	1	1	1	1
Dmi	0,296875	0,333333	0,25	0,2	#DIV/0!	#DIV/0!

- Dominance factor of coercion

Power indicator	1	2	3	4	5	6
	FA	Local Pol	D_Pol 1	D_Pol 2	TA	FPtr
Xi	120	120	80	80	60	0
hi	0,26087	0,26087	0,173913	0,173913	0,130435	0
Cri	0,26087	0,521739	0,695652	0,869565	1	1
Dmi	0,177316	0,193289	0,192187	0,197543	0,2	#DIV/0!

*** Outcomes and PIDOs**

Name of CF	Social outcome	Economic outcome	Ecological outcome	Name and code of powerful actors	PIDO Social	PIDO Economic	PIDO Ecological
Bac Hung CF	**Medium**	**Medium**	**Medium**	FA	1	-1	+1
- Local people encroach community forest sometimes; - Free to collect NTFPs, but ask TA's permission to collect timber; - There is no plan or inventory of biodiversity; - TA decides on liquidation and contribution of confiscated products.				Local Pol	1	1	1
				TA	1	+1	1
				D_Pol1	-1	+1	1
				D_Pol2	-1	0	0

PIDO (Powerful Interest Desired Outcome)

(+1) means powerful actors desire a high outcome for final end user
(1) means powerful actors desire a medium outcome for final end user
(-1) means powerful actors desire a low outcome for final end user
(0) means powerful actors do not desire a specific outcome for final end user

6. Bo CF, Ngo Luong commune

*** Power elements**

Actor classification	Power element: Trust			Power element: Incentive			Power element: Coercion		
	QT	QL	R	QT	QL	R	QT	QL	R
FA	2	+	2	2	+	2	2	+	2
Local Pol	2	+	2	1	+	2	2	+	2
FPtr	2	+	2	1	-	1	1	-	1
TA	2	+	2	2	+	2	2	+	2
D_Pol1	1	0	1	1	-	1	2	+	2
D_Pol2	1	0	1	1	-	1	2	+	2
FA2	2	+	1	1	+	2	2	+	2

- Group of powerful actors:	2	- Not checked:	0
- Group of less powerful actors:	1	- Quantitative data	QT
- Power source observed:	+	- Qualitative data	QL
- Power source not observed:	-	- Final result (triangulation)	R

*** Dominance factors**

- Dominance factor of dominant information

Power indicator	1	2	3	4	5	6	7
	FA	FA2	Local Pol	TA	FPtr	D_Pol 1	D_Pol 2
Xi	69,44444	50	47,22222	44,44444	36,11111	11,11111	0
hi	0,268817	0,193548	0,182796	0,172043	0,139785	0,043011	0
Cri	0,268817	0,462366	0,645161	0,817204	0,956989	1	1
Dmi	0,161367	0,164701	0,170222	0,178094	0,184091	0,166667	#DIV/0!

- Dominance factor of incentives

Power indicator	1	2	3	4	5	6	7
	FA	TA	Local Pol	FPtr	D_Pol 1	D_Pol 2	FA2
Xi	50	16,66667	0	0	0	0	0
hi	0,75	0,25	0	0	0	0	0
Cri	0,75	1	1	1	1	1	1
Dmi	0,29375	0,333333	0,25	0,2	0,166667	#DIV/0!	#DIV/0!

- Dominance factor of coercion

Power indicator	1	2	3	4	5	6	7
	FA	Local Pol	D_Pol 1	TA	D_Pol 2	FA2	FPtr
Xi	83,33333	83,33333	83,33333	66,66667	66,66667	50	0
hi	0,192308	0,192308	0,192308	0,153846	0,153846	0,115385	0
Cri	0,192308	0,384615	0,576923	0,730769	0,884615	1	1
Dmi	0,14571	0,149704	0,155695	0,157668	0,163166	0,166667	#DIV/0!

*** Outcomes and PIDOs**

Name of CF	Social outcome	Economic outcome	Ecological outcome	Name and code of powerful actors	PIDO Social	PIDO Economic	PIDO Ecological
Bo CF	**Low**	**Medium**	**High**	FA	1	-1	+1
- Local people do not extract timber from community forest; - Free to collect NTFPs, but only for subsistence; - There is plan and inventory of biodiversity; - TA decides on liquidation and contribution of confiscated products.				Local Pol	-1	1	1
				FPtr	0	+1	1
				TA	-1	+1	+1
				D_Pol1	-1	+1	1
				D_Pol2	-1	0	0
				FA2	-1	1	+1
PIDO (Powerful Interest Desired Outcome) (+1) means powerful actors desire a high outcome for final end user (1) means powerful actors desire a medium outcome for final end user (-1) means powerful actors desire a low outcome for final end user (0) means powerful actors do not desire a specific outcome for final end user							

7. Sang CF, Muoi Noi commune

***Power elements**

Actor classification	Power element: dominant information			Power element: Incentive			Power element: Coercion		
	QT	QL	R	QT	QL	R	QT	QL	R
FA	2	+	2	2	+	2	2	+	2
Local Pol	2	-	1	1	-	1	1	+	2
FUGR	1	+	2	1	+	2	1	+	2

I_Dnr	1	+	2	2	+	2	1	+[30]	2
FPtr	1	-	1	1	0	1	1	-	1
TA	2	+	2	1	-	1	1	-	1
D_Pol1	1	0	1	1	-	1	2	+	2
D_Pol2	1	0	1	1	-	1	2	+	2
Con	2	+	2	2	-	1	1	-	1

- Group of powerful actors:	2	- Not checked:	0
- Group of less powerful actors:	1	- Quantitative data	QT
- Power source observed:	+	- Qualitative data	QL
- Power source not observed:	-	- Final result (triangulation)	R

*** Dominance factors**

- Dominance factor of dominant information

Power indicator	1 FA	2 Con	3 TA	4 Dnr	5 L_Pol	6 FUGR	7 FPtr	8 D_Pol1	9 D_Pol2
Xi	77,08	66,67	62,5	45,83	41,67	33,33	22,92	4,17	2,08
hi	0,216374	0,187135	0,175439	0,128655	0,116959	0,093567	0,064327	0,011696	0,005848
Cri	0,216374	0,403509	0,578947	0,707602	0,824561	0,918129	0,982456	0,994152	1
Dmi	0,123576	0,132238	0,141274	0,142275	0,143675	0,142728	0,138042	0,123576	#DIV/0!

- Dominance factor of incentives

	1	2	3	4	5	6	7	8	9
Power indicator	Dnr	Con	FA	L_Pol	FUGr	FPtr	TA	D_Pol1	D_Pol2
Xi	62,5	50	37,5	0	0	0	0	0	0
hi	0,416667	0,333333	0,25	0	0	0	0	0	0
Cri	0,416667	0,75	1	1	1	1	1	1	1
Dmi	0,216146	0,290179	0,333333	0,25	0,2	0,166667	0,142857	0,125	#DIV/0!

- Dominance factor of coercion

	1	2	3	4	5	6	7	8	9
Power indicator	FA	D_Pol2	D_Pol1	L_Pol	Dnr	TA	FUGr	FPtr	Con
Xi	112,5	75	62,5	50	12,5	12,5	0	0	0
hi	0,346154	0,230769	0,192308	0,153846	0,038462	0,038462	0	0	0
Cri	0,346154	0,576923	0,769231	0,923077	0,961538	1	1	1	1
Dmi	0,173262	0,191991	0,206114	0,214201	0,185281	0,166667	0,142857	0,125	#DIV/0!

*** Outcomes and PIDOs**

Name of CF	Social outcome	Economical outcome	Ecological outcome	Name and code of powerful actors	PIDO Social	PIDO Economic	PIDO Ecological
Sang CF	**Medium**	**Medium**	**Medium**	FA	1	-1	+1
- Local people still extract timber illegally;				Local Pol	1	1	1
- Still do farming under the allocated forest crown;				FUGR	-1	1	1
- Grazing livestock under the allocated forest;				I_Dnr	1	+1	+1
- There is no plan or inventory of biodiversity;				TA	-1	+1	1
				D_Pol1	-1	1	1
				D_Pol2	-1	0	0
				Con	1	1	1

PIDO (Powerful Interest Desired Outcome)
(+1) means powerful actors desire a high outcome for final end user
(1) means powerful actors desire a medium outcome for final end user

[30] Check and take over result of the afforestation activity, then decide to whether transfer money to the forest user's bank account or not.

(-1) means powerful actors desire a low outcome for final end user (0) means powerful actors do not desire a specific outcome for final end user

8. Hon CF, Chieng Bom commune

*** Power element:**

Actor classification	Power element: dominant information			Power element: Incentive			Power element: Coercion		
	QT	QL	R	QT	QL	R	QT	QL	R
FA	2	+	2	2	+	2	2	+	2
Local Pol	2	-	1	1	-	1	1	+	2
FUGR	2	+	2	1	+	2	1	+	2
I_Dnr	2	+	2	2	+	2	1	+	2
FPtr	1	-	1	1	-	1	1	-	1
TA	2	+	2	1	-	1	1	-	1
D_Pol1	1	0	1	1	-	1	2	+	2
D_Pol2	1	0	1	1	-	1	2	+	2
Con	2	+	2	2	-	1	1	-	1
- Group of powerful actors:				2	- Not checked:				0
- Group of less powerful actors:				1	- Quantitative data				QT
- Power source observed:				+	- Qualitative data				QL
- Power source not observed:				-	- Final result (triangulation)				R

*** Dominance factors**

- Dominance factor of dominant information

Power indicator	1 FA	2 Con	3 Dnr	4 TA	5 Local Pol	6 FUGr	7 FPtr	8 D_Pol 1	9 D_Pol 2
Xi	77,08333	66,66667	54,16667	41,66667	37,5	33,33333	18,75	2,083333	0
hi	0,232704	0,201258	0,163522	0,125786	0,113208	0,100629	0,056604	0,006289	0
Cri	0,232704	0,433962	0,597484	0,72327	0,836478	0,937107	0,993711	1	1
Dmi	0,127744	0,139933	0,145999	0,146096	0,146624	0,14768	0,141086	0,125	#DIV/0!

- Dominance factor of incentives

Power indicator	1 FA	2 Dnr	3 Con	4 Local Pol	5 FUGr	6 FPtr	7 TA	8 D_Pol 1	9 D_Pol 2
Xi	62,5	62,5	50	0	0	0	0	0	0
hi	0,357143	0,357143	0,285714	0	0	0	0	0	0
Cri	0,357143	0,714286	1	1	1	1	1	1	1
Dmi	0,179209	0,266764	0,333333	0,25	0,2	0,166667	0,142857	0,125	#DIV/0!

- Dominance factor of coercion

Power indicator	1 FA	2 D_Pol 2	3 D_Pol 1	4 Local Pol	5 Dnr	6 TA	7 FUGr	8 FPtr	9 Con
Xi	125	100	62,5	50	25	12,5	0	0	0
hi	0,333333	0,266667	0,166667	0,133333	0,066667	0,033333	0	0	0
Cri	0,344828	0,611494	0,778161	0,911494	0,978161	1,011494	1,011494	1,011494	1,011494
Dmi	0,172562	0,208525	0,210047	0,209272	0,191479	0,170564	0,146226	0,128022	#DIV/0!

*** Outcomes and PIDOs**

Name of CF	Social outcome	Economical outcome	Ecological outcome	Name and code of powerful actors	PIDO Social	PIDO Economic	PIDO Ecological
Hon CF	**Medium**	**Medium**	**Medium**	FA	1	-1	+1

- Limited access to the community forest; - Forbid medicinal plant collection;	Local Pol	1	1	1
	FUGR	-1	1	1
	I_Dnr	1	+1	+1
	TA	-1	+1	1
	D_Pol1	-1	1	1
	D_Pol2	-1	0	0
	Con	1	1	1

PIDO (Powerful Interest Desired Outcome)

(+1) means powerful actors desire a high outcome for final end user
(1) means powerful actors desire a medium outcome for final end user
(-1) means powerful actors desire a low outcome for final end user
(0) means powerful actors do not desire a specific outcome for final end user

9. Chen CF, Phieng Ban commnue

*** Power element:**

Actor classification	Power element: dominant information			Power element: Incentive (disincentive)			Power element: Coercion		
	QT	QL	R	QT	QL	R	QT	QL	R
FA	2	+	2	2	+	2	2	+	2
Local Pol	1	-	1	1	-	1	1	+	2
FUGR	1	+	2	1	+	2	1	+	2
I_Dnr	2	+	2	2	+	2	1	+	2
FPtr	1	-	1	1	-	1	1	-	1
TA	2	+	2	1	-	1	1	-	1
D_Pol1	1	-	1	1	-	1	2	+	2
D_Pol2	1	-	1	1	-	1	2	+	2
Con	2	+	2	1	-	1	1	-	1

- Group of powerful actors:	2	- Not checked:	0
- Group of less powerful actors:	1	- Quantitative data	QT
- Power source observed:	+	- Qualitative data	QL
- Power source not observed:	-	- Final result (triangulation)	R

*** Dominance factors**

- Dominance factor of dominant information

Power indicator	1	2	3	4	5	6	7	8	9
	FA	Dnr	Con	TA	Local Pol	FUGr	FPtr	D_Pol 1	D_Pol 2
Xi	87,5	72,91667	62,5	54,16667	37,5	31,25	18,75	4,166667	4,166667
hi	0,234637	0,195531	0,167598	0,145251	0,100559	0,083799	0,050279	0,011173	0,011173
Cri	0,234637	0,430168	0,597765	0,743017	0,843575	0,927374	0,977654	0,988827	1
Dmi	0,128277	0,138909	0,146073	0,151227	0,148441	0,145095	0,136793	0,122347	#DIV/0!

- Dominance factor of incentives

Power indicator	1	2	3	4	5	6	7	8	9
	Dnr	FA	Con	TA	Local Pol	FUGr	FPtr	D_Pol 1	D_Pol 2
Xi	62,5	50	25	12,5	0	0	0	0	0
hi	0,416667	0,333333	0,166667	0,083333	0	0	0	0	0
Cri	0,416667	0,75	0,916667	1	1	1	1	1	1
Dmi	0,216146	0,290179	0,28125	0,25	0,2	0,166667	0,142857	0,125	#DIV/0!

- Dominance factor of coercion

Power indicator	1	2	3	4	5	6	7	8	9
	FA	D_Pol 2	D_Pol 1	Local Pol	Dnr	FUGr	FPtr	TA	Con
Xi	137,5	100	62,5	50	25	0	0	0	0
hi	0,366667	0,266667	0,166667	0,133333	0,066667	0	0	0	0
Cri	0,366667	0,633333	0,8	0,933333	1	1	1	1	1

Dmi	0,184583	0,219762	0,22	0,218667	0,2	0,166667	0,142857	0,125	#DIV/0!

*** Outcomes and PIDOs**

Name of CF	Social outcome	Economical outcome	Ecological outcome	Name and code of powerful actors	PIDO Social	PIDO Economic	PIDO Ecological
Chen CF	**Medium**	**Medium**	**Medium**	FA	1	-1	+1
- Reduce the impacts on the community forest - Limit the collection of forest products (hunting, bamboo shoot)				Local Pol	1	1	1
				FUGR	-1	1	1
				I_Dnr	1	+1	+1
				TA	-1	+1	1
				D_Pol1	-1	1	1
				D_Pol2	-1	0	0
				Con	0	1	1
PIDO (Powerful Interest Desired Outcome) (+1) means powerful actors desire a high outcome for final end user (1) means powerful actors desire a medium outcome for final end user (-1) means powerful actors desire a low outcome for final end user (0) means powerful actors do not desire a specific outcome for final end user							

10. Cao Da CF, Muong Khoa commune

*** Power element**

Actor classification	Power element: dominant information			Power element: Incentive			Power element: Coercion		
	QT	QL	R	QT	QL	R	QT	QL	R
FA	2	+	2	2	+	2	2	+	2
Local Pol	2	-	1	1	-	1	1	+	2
FUGR	1	+	2	1	+	2	1	+	2
I_Dnr	2	+	2	2	+	2	1	+	2
FPtr	1	-	1	1	-	1	1	-	1
TA	2	+	2	1	+	2	1	-	1
D_Pol1	1	-	1	1	-	1	2	+	2
D_Pol2	1	-	1	1	-	1	2	+	2
Con	2	+	2	2	-	1	1	-	1
- Group of powerful actors: - Group of less powerful actors: - Power source observed: - Power source not observed:				2 1 + -	- Not checked: - Quantitative data - Qualitative data - Final result (triangulation)				0 QT QL R

*** Dominance factors**

- Dominance factor of dominant information

Power indicator	1	2	3	4	5	6	7	8	9
	FA	Dnr	Con	TA	Local Pol	FUGr	FPtr	D_Pol 1	D_Pol 2
Xi	87,5	68,75	62,5	54,16667	50	35,41667	29,16667	0	0
hi	0,225806	0,177419	0,16129	0,139785	0,129032	0,091398	0,075269	0	0
Cri	0,230769	0,408189	0,569479	0,709264	0,838296	0,929694	1,004963	1,004963	1,004963
Dmi	0,127219	0,133343	0,138993	0,142669	0,147085	0,145703	0,144291	0,126268	#DIV/0!

- Dominance factor of incentives

Power indicator	1	2	3	4	5	6	7	8	9
	Dnr	FA	Con	FUGr	TA	Local Pol	FPtr	D_Pol 1	D_Pol 2
Xi	62,5	37,5	37,5	12,5	12,5	0	0	0	0
hi	0,384615	0,230769	0,230769	0,076923	0,076923	0	0	0	0

Cri	0,416667	0,647436	0,878205	0,955128	1,032051	1,032051	1,032051	1,032051	1,032051
Dmi	0,216146	0,227344	0,259554	0,22847	0,213283	0,177864	0,152675	0,134169	#DIV/0!

- Dominance factor of coercion

Power indicator	1 FA	2 D_Pol 1	3 D_Pol 2	4 Local Pol	5 Dnr	6 FUGr	7 FPtr	8 TA	9 Con
Xi	137,5	62,5	62,5	50	37,5	12,5	0	0	0
hi	0,37931	0,172414	0,172414	0,137931	0,103448	0,034483	0	0	0
Cri	0,354839	0,527253	0,699666	0,837597	0,941046	0,975528	0,975528	0,975528	0,975528
Dmi	0,17794	0,170925	0,178211	0,180667	0,177982	0,158809	0,13625	0,119556	#DIV/0!

*** Outcomes and PIDOs**

Name of CF	Social outcome	Economical outcome	Ecological outcome	Name and code of powerful actors	PIDO Social	PIDO Economic	PIDO Ecological
Muong Khoa	**Medium**	**Medium**	**Medium**	FA	1	-1	+1
- Reduce the impacts on the community forest - Limit the collection of forest products (hunting, bamboo shoot)				Local Pol	1	1	1
				FUGR	-1	1	1
				I_Dnr	1	+1	+1
				TA	-1	+1	1
				D_Pol1	-1	1	1
				D_Pol2	-1	0	0
				Con	0	1	1

PIDO (Powerful Interest Desired Outcome)

(+1) means powerful actors desire a high outcome for final end user
(1) means powerful actors desire a medium outcome for final end user
(-1) means powerful actors desire a low outcome for final end user
(0) means powerful actors do not desire a specific outcome for final end user

11. A Ma CF, Long Sap commune

*** Power element**

Actor classification	Power element: dominant information			Power element: Incentive (disincentive)			Power element: Coercion		
	QT	QL	R	QT	QL	R	QT	QL	R
FA	2	+	2	2	+	2	2	+	2
Local Pol	2	-	1	1	-	1	1	+	2
FUGR	1	+	2	1	+	2	1	+	2
I_Dnr	2	+	2	2	+	2	1	+	2
FPtr	1	-	1	1	-	1	1	-	1
TA	1	+	2	1	-	1	1	-	1
D_Pol1	1	-	1	1	-	1	2	+	2
D_Pol2	1	-	1	1	-	1	2	+	2
Con	2	+	2	2	-	1	1	-	1
Fb	2	-	1	2	+	2	1	+	2

- Group of powerful actors:	2	- Not checked:	0
- Group of less powerful actors:	1	- Quantitative data	QT
- Power source observed:	+	- Qualitative data	QL
- Power source not observed:	-	- Final result (triangulation)	R

*** Dominance factors**

- Dominance factor of dominant information

Power	1	2	3	4	5	6	7	8	9	10

indicator	Con	FA	Dnr	Local Pol	Fb	FUGr	FPr	TA	D_Pol 1	D_Pol 2
Xi	66,66667	55,55556	51,85185	40,74074	37,03704	27,77778	22,22222	18,51852	3,703704	0
hi	0,205714	0,171429	0,16	0,125714	0,114286	0,085714	0,068571	0,057143	0,011429	0
Cri	0,2	0,371429	0,531429	0,657143	0,771429	0,857143	0,925714	0,982857	0,994286	0,994286
Dmi	0,111111	0,118367	0,125504	0,127551	0,129469	0,127551	0,12426	0,120898	0,109878	#DIV/0!

- Dominance factor of incentives

Power indicator	1	2	3	4	5	6	7	8	9	10
	FA	Dnr	Con	Fb	Local Pol	FUGr	FPtr	TA	D_Pol 1	D_Pol 2
Xi	44,44444	44,44444	44,44444	44,44444	0	0	0	0	0	0
hi	0,25	0,25	0,25	0,25	0	0	0	0	0	0
Cri	0,25	0,5	0,75	1	1	1	1	1	1	1
Dmi	0,125	0,15625	0,196429	0,25	0,2	0,166667	0,142857	0,125	0,111111	#DIV/0!

- Dominance factor of coercion

Power indicator	1	2	3	4	5	6	7	8	9	10
	FA	D_Pol 2	D_Pol 1	Local Pol	Fb	Dnr	FUGr	FPtr	TA	Con
Xi	111,1111	88,88889	77,77778	33,33333	33,33333	11,11111	0	0	0	0
hi	0,3125	0,25	0,21875	0,09375	0,09375	0,03125	0	0	0	0
Cri	0,3125	0,5625	0,78125	0,875	0,96875	1	1	1	1	1
Dmi	0,150174	0,182129	0,210286	0,19401	0,187891	0,166667	0,142857	0,125	0,111111	#DIV/0!

*** Outcomes and Pido**

Name of CF	Social outcome	Economic outcome	Ecological outcome	Name and code of powerful actors	PIDO Social	PIDO Economic	PIDO Ecological
A Ma CF	**Medium**	**Medium**	**Medium**	FA	1	-1	+1
- Free to collect fuel wood, but not for sale; medicinal plants - Forbid logging				Local Pol	1	1	1
				FUGR	-1	1	1
				I_Dnr	1	+1	+1
				TA	-1	+1	1
				D_Pol1	-1	1	1
				D_Pol2	-1	0	0
				Con	0	1	1
				Fb	0	+1	+1

PIDO (Powerful Interest Desired Outcome)

(+1) means powerful actors desire a high outcome for final end user
(1) means powerful actors desire a medium outcome for final end user
(-1) means powerful actors desire a low outcome for final end user
(0) means powerful actors do not desire a specific outcome for final end user

12. Coc Lac CF, Tu Nang commune

*** Power element**

Actor classification	Power element: dominant information			Power element: Incentive			Power element: Coercion		
	QT	QL	R	QT	QL	R	QT	QL	R
FA	2	+	2	2	+	2	2	+	2
Local Pol	1	+	2	1	-	1	1	+	2
FUGr	1	+	2	1	+	2	1	+	2
N_Dnr	1	-	1	2	+	2	1	+	2
FPtr	1	-	1	1	-	1	1	-	1
TA	1	+	2	1	-	1	1	-	1
D_Pol1	1	-	1	1	-	1	2	+	2
D_Pol2	1	-	1	1	-	1	2	+	2

- Group of powerful actors:	2	- Not checked:	0
- Group of less powerful actors:	1	- Quantitative data	QT
- Power source observed:	+	- Qualitative data	QL
- Power source not observed:	-	- Final result (triangulation)	R

*** Dominance factors**

- Dominance factor of dominant information

Power indicator	1	2	3	4	5	6	7	8
	FA	TA	FUGr	Local Pol	L_Dnr	FPtr	D_Pol 1	D_Pol 2
Xi	66,66667	38,09524	30,95238	28,57143	28,57143	23,80952	9,52381	7,142857
hi	0,285714	0,163265	0,132653	0,122449	0,122449	0,102041	0,040816	0,030612
Cri	0,285714	0,44898	0,581633	0,704082	0,826531	0,928571	0,969388	1
Dmi	0,154519	0,151395	0,147772	0,145825	0,146661	0,146259	0,135182	#DIV/0!

- Dominance factor of incentives

Power indicator	1	2	3	4	5	6	7	8
	FA	L_Dnr	FUGr	Local Pol	FPr	TA	D_Pol 1	D_Pol 2
Xi	57,14286	57,14286	14,28571	0	0	0	0	0
hi	0,444444	0,444444	0,111111	0	0	0	0	0
Cri	0,444444	0,888889	1	1	1	1	1	1
Dmi	0,241623	0,397119	0,333333	0,25	0,2	0,166667	0,142857	#DIV/0!

- Dominance factor of coercion

Power indicator	1	2	3	4	5	6	7	8
	FA	D_Pol 2	D_Pol 1	Local Pol	FUGr	L_Dnr	FPtr	TA
Xi	114,2857	85,71429	71,42857	42,85714	14,28571	0	0	0
hi	0,347826	0,26087	0,217391	0,130435	0,043478	0	0	0
Cri	0,347826	0,608696	0,826087	0,956522	1	1	1	1
Dmi	0,181745	0,210775	0,233522	0,229206	0,2	0,166667	0,142857	#DIV/0!

*** Outcomes and PIDOs**

Name of CF	Social outcome	Economic outcome	Ecological outcome	Name and code of powerful actors	PIDO Social	PIDO Economic	PIDO Ecological
Coc Lac CF	**Medium**	**Medium**	**Medium**	FA	1	-1	+1
- Local people still extract timber illegally; - Still do farming under the allocated forest canopy; - Limited access to the community forest - There is no plan or inventory of biodiversity;				Local Pol	1	1	1
				FUGR	0	1	1
				N_Dnr	0	1	+1
				TA	-1	1	1
				D_Pol1	-1	1	1
				D_Pol2	-1	0	0

PIDO (Powerful Interest Desired Outcome)

(+1) means powerful actors desire a high outcome for final end user
(1) means powerful actors desire a medium outcome for final end user
(-1) means powerful actors desire a low outcome for final end user
(0) means powerful actors do not desire a specific outcome for final end user

13. Cang CF, Chieng Hac commune

*** Power element**

Actor classification	Power element: dominant information			Power element: Incentive (disincentive)			Power element: Coercion		
	QT	QL	R	QT	QL	R	QT	QL	R
FA	2	+	2	2	+	2	2	+	2
Local Pol	2	+	2	1	-	1	2	+	2
FUGr	1	+	2	1	+	2	1	+	2
N_Dnr	2	-	1	2	+	2	1	+	2
FPtr	1	-	1	1	-	1	1	-	1
TA	1	+	2	1	-	1	1	-	1
D_Pol1	1	-	1	1	-	1	2	+	2
D_Pol2	1	-	1	1	-	1	2	+	2
Ext	1	-	1	1	-	1	1	-	1

- Group of powerful actors:	2	- Not checked:	0
- Group of less powerful actors:	1	- Quantitative data	QT
- Power source observed:	+	- Qualitative data	QL
- Power source not observed:	-	- Final result (triangulation)	R

*** Dominance factors**

- Dominance factor of dominant information

Power indicator	1	2	3	4	5	6	7	8	9
	FA	Local Pol	L_Dnr	TA	FUGr	D_Pol 1	Ext	D_Pol 2	FPtr
Xi	75	54,16667	41,66667	29,16667	27,08333	20,83333	20,83333	10,41667	8,333333
hi	0,26087	0,188406	0,144928	0,101449	0,094203	0,072464	0,072464	0,036232	0,028986
Cri	0,264706	0,453112	0,598039	0,699488	0,793691	0,866155	0,938619	0,974851	1,003836
Dmi	0,137651	0,145382	0,146146	0,140382	0,13663	0,131009	0,127742	0,119424	#DIV/0!

- Dominance factor of incentives

Power indicator	1	2	3	4	5	6	7	8	9
	FA	L_Dnr	FUGr	Ext	Local Pol	FPtr	TA	D_Pol 1	D_Pol 2
Xi	62,5	62,5	25	25	0	0	0	0	0
hi	0,357143	0,357143	0,142857	0,142857	0	0	0	0	0
Cri	0,357143	0,714286	0,857143	1	1	1	1	1	1
Dmi	0,179209	0,266764	0,248299	0,25	0,2	0,166667	0,142857	0,125	#DIV/0!

- Dominance factor of coercion

Power indicator	1	2	3	4	5	6	7	8	9
	FA	D_Pol 2	D_Pol 1	Local Pol	FUGr	L_Dnr	FPtr	TA	Ext
Xi	137,5	112,5	87,5	75	25	0	0	0	0
hi	0,314286	0,257143	0,2	0,171429	0,057143	0	0	0	0
Cri	0,314286	0,571429	0,771429	0,942857	1	1	1	1	1
Dmi	0,157551	0,189504	0,207075	0,222898	0,2	0,166667	0,142857	0,125	#DIV/0!

*** Outcomes and PIDO**

Name of CF	Social outcome	Economic outcome	Ecological outcome	Name and code of powerful actors	PIDO Social	PIDO Economic	PIDO Ecological
Cang CF	**Medium**	**Medium**	**Medium**	FA	1	-1	+1
- Still do farming under the allocated forest canopy; - Slash and burn still happens - There is no plan or inventory of biodiversity;				Local Pol	1	1	1
				FUGR	-1	1	1
				N_Dnr	0	1	+1
				TA	-1	1	1
				D_Pol1	-1	1	1

	D_Pol2	-1	0	0

PIDO (Powerful Interest Desired Outcome)

(+1) means powerful actors desire a high outcome for final end user
(1) means powerful actors desire a medium outcome for final end user
(-1) means powerful actors desire a low outcome for final end user
(0) means powerful actors do not desire a specific outcome for final end user

14. Ngoang CF, Chieng Khoi commune

*** Power element**

Actor classification	Power element: dominant information			Power element: Incentive (disincentive)			Power element: Coercion		
	QT	QL	R	QT	QL	R	QT	QL	R
FA	2	+	2	2	+	2	2	+	2
Local Pol	1	+	2	1	-	1	2	+	2
FUGR	1	+	2	2	+	2	1	+	2
N_Dnr	2	-	1	2	+	2	1	+	2
FPtr	1	-	1	1	-	1	1	-	1
TA	1	+	2	1	-	1	1	-	1
D_Pol1	1	-	1	1	-	1	2	+	2
D_Pol2	1	-	1	1	-	1	2	+	2

- Group of powerful actors:	2	- Not checked:	0
- Group of less powerful actors:	1	- Quantitative data	QT
- Power source observed:	+	- Qualitative data	QL
- Power source not observed:	-	- Final result (triangulation)	R

*** Dominance factors**

- Dominance factor of dominant information

Power indicator	1	2	3	4	5	6	7	8
	FA	L_Dnr	Local Pol	FUGr	TA	FPtr	D_Pol 1	D_Pol 2
Xi	78,57143	47,61905	33,33333	33,33333	28,57143	16,66667	16,66667	4,761905
hi	0,302752	0,183486	0,12844	0,12844	0,110092	0,06422	0,06422	0,018349
Cri	0,292035	0,475522	0,603962	0,732402	0,842494	0,906714	0,970934	0,989283
Dmi	0,156887	0,158907	0,152959	0,152005	0,150229	0,141373	0,135518	#DIV/0!

- Dominance factor of incentives

Power indicator	1	2	3	4	5	6	7	8
	FA	L_Dnr	FUGr	Local Pol	FPtr	TA	D_Pol 1	D_Pol 2
Xi	57,14286	57,14286	28,57143	0	0	0	0	0
hi	0,4	0,4	0,2	0	0	0	0	0
Cri	0,4	0,8	1	1	1	1	1	1
Dmi	0,211429	0,326667	0,333333	0,25	0,2	0,166667	0,142857	#DIV/0!

- Dominance factor of coercion

Power indicator	1	2	3	4	5	6	7	8
	FA	D_Pol 1	D_Pol 2	Local Pol	FUGr	L_Dnr	FPtr	TA
Xi	157,1429	85,71429	71,42857	57,14286	14,28571	0	0	0
hi	0,407407	0,222222	0,185185	0,148148	0,037037	0	0	0
Cri	0,407407	0,62963	0,814815	0,962963	1	1	1	1
Dmi	0,216147	0,221079	0,228166	0,232167	0,2	0,166667	0,142857	#DIV/0!

*** Outcomes and PIDOs**

Name of CF	Social outcome	Economic outcome	Ecological outcome	Name and code of powerful	PIDO Social	PIDO Economic	PIDO Ecological

				actors			
Ngoang CF	**Medium**	**Medium**	**Medium**	FA	1	-1	+1
- Limited access to community forest - Slash and burn, illegal logging still happened - There is no plan or inventory of biodiversity;				Local Pol	1	1	1
				FUGR	-1	1	1
				N_Dnr	0	1	+1
				TA	-1	1	1
				D_Pol1	-1	1	1
				D_Pol2	-1	0	0
PIDO (Powerful Interest Desired Outcome) (+1) means powerful actors desire a high outcome for final end user (1) means powerful actors desire a medium outcome for final end user (-1) means powerful actors desire a low outcome for final end user (0) means powerful actors do not desire a specific outcome for final end user							

15. Na Pan CF, Chieng Dong commune

*** Power element**

Actor classification	Power element: dominant information			Power element: Incentive (disincentive)			Power element: Coercion		
	QT	QL	R	QT	QL	R	QT	QL	R
FA	2	+	2	2	+	2	2	+	2
Local Pol	1	-	1	1	-	1	2	+	2
FUGR	1	+	2	1	+	2	1	+	2
N_Dnr	1	-	1	2	+	2	1	+	2
FPtr	1	-	1	1	-	1	1	-	1
TA	1	+	2	1	-	1	1	-	1
D_Pol1	1	-	1	1	-	1	2	+	2
D_Pol2	1	-	1	1	-	1	2	+	2

- Group of powerful actors:	2	- Not checked:	0
- Group of less powerful actors:	1	- Quantitative data	QT
- Power source observed:	+	- Qualitative data	QL
- Power source not observed:	-	- Final result (triangulation)	R

*** Dominance factors**

- Dominance factor of dominant information

Power indicator	1	2	3	4	5	6	7	8
	FA	L_Dnr	FUGr	Local Pol	TA	FPtr	D_Pol 1	D_Pol 2
Xi	78,57143	38,09524	35,71429	33,33333	33,33333	26,19048	11,90476	4,761905
hi	0,3	0,145455	0,136364	0,127273	0,127273	0,1	0,045455	0,018182
Cri	0,3	0,445455	0,581818	0,709091	0,836364	0,936364	0,981818	1
Dmi	0,16	0,150468	0,147813	0,14686	0,148826	0,148154	0,13804	#DIV/0!

- Dominance factor of incentives

Power indicator	1	2	3	4	5	6	7	8
	FA	L_Dnr	FUGr	Local Pol	FPtr	TA	D_Pol 1	D_Pol 2
Xi	57,14286	57,14286	14,28571	0	0	0	0	0
hi	0,444444	0,444444	0,111111	0	0	0	0	0
Cri	0,444444	0,888889	1	1	1	1	1	1
Dmi	0,241623	0,397119	0,333333	0,25	0,2	0,166667	0,142857	#DIV/0!

- Dominance factor of coercion

Power indicator	1	2	3	4	5	6	7	8
	FA	D_Pol 2	D_Pol 1	Local Pol	FUGr	L_Dnr	FPr	TA
Xi	157,1429	85,71429	71,42857	57,14286	0	0	0	0
hi	0,423077	0,230769	0,192308	0,153846	0	0	0	0

Cri	0,423077	0,653846	0,846154	1	1	1	1	1
Dmi	0,226543	0,233728	0,243393	0,25	0,2	0,166667	0,142857	#DIV/0!

*** Outcomes and PIDO**

Name of CF	Social outcome	Economic outcome	Ecological outcome	Name and code of powerful actors	PIDO Social	PIDO Economic	PIDO Ecological
Na Pan CF	**Medium**	**Medium**	**Medium**	FA	1	-1	+1
- Local people still extract timber illegally; - Still do farming under the allocated forest canopy; - There is no plan or inventory of biodiversity;				Local Pol	1	1	1
				FUGR	-1	1	1
				N_Dnr	0	1	+1
				TA	-1	1	1
				D_Pol1	-1	1	1
				D_Pol2	-1	0	0

PIDO (Powerful Interest Desired Outcome)

(+1) means powerful actors desire a high outcome for final end user
(1) means powerful actors desire a medium outcome for final end user
(-1) means powerful actors desire a low outcome for final end user
(0) means powerful actors do not desire a specific outcome for final end user

CURRICULUM VITAE

1. Personal data:

- Name, first name: **NGO, DUY BACH**
- Date of Birth: 14 April 1974
- Place of Birth: Hanoi Capital, Vietnam
- Nationality: Vietnamese
- Sex: Male
- Marital status: Married, 2 children

2. Educational processes

- ✓ From 1980 to 1988: Studied senior and junior school at Gia Thuy School, Gia Lam district, Ha Noi capital of Vietnam.
- ✓ From 1988 to 1991: Studied junior high school at Cao Ba Quat Secondary School, Gia Lam district, Ha Noi capital of Vietnam.
- ✓ From 1992 to 1997: Studied forestry at Vietnam Forestry University, Ha Noi capital of Vietnam.
- ✓ From 2000 to 2002: Studied Master of Environmental Science at College of Science, Vietnam National University, Hanoi capital of Vietnam.

Additional education:

January 1998	Knowledge of Biodiversity Conservation, Forestry University of Vietnam
May 1998	Training course on Ecology Environment Protection, Forestry University of Vietnam
October 1998	Training course on Geography Information System, Department of Forest Guard, Hanoi
August 1999	Training course on Convention on International Trade of Endangered Species Fauna and Flora, Ha Tinh, Department of Forest Guard
5th – 20th August 2001	Training course on Research on Sustainable Rural Development, National Institute for Science and Technology Policy an Strategy Studies Vietnam
4th – 13th May 2005	Workshop on New Approaches in Social Science Research Methods for Environmental Issues, Held in Hue, Conducted by Tropenbos-International Vietnam in co-operation with Trainers from Yale University, USA for Researchers,

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