

THE ROLE OF THE LOCAL PEOPLE IN FOREST MANAGEMENT AND DEVELOPMENT IN VO NHAU DISTRICT, THAI NGUYEN PROVINCE

Dr. Nguyen Thi Phuong Mai

maintp@tnus.edu.vn

Faculty of Environment and Earth Sciences, Thai Nguyen University of Sciences

Abstract

In Vietnam, community-based forest management has been existed since long time and related to livelihoods and cultures of the local communities. In the fact that, this is an effective way to develop forests and consists with habits and customs of local people who are direct forest users and managers. This research focuses on analysing the role of local people in forest management and protection in Vo Nhai district, Thai Nguyen province, where the local ethnic people are poor and depend on the local forests. Methods of data collection are household survey, qualitative interview and observation. The survey was conducted by interviewing randomly 100 households through questionnaires. The research analysed the participation of local people in forest management and protection at three scales: village, household and individual. An overview assessment from these analyses indicated advantages and disadvantages in doing community-based forest management toward forest management more sustainably in the research area.

Keywords: Community-based forest management, forest development, participation of local people

1. Introduction

In Vietnam, community-based forest management (CBFM) has been existed since long time and related to livelihoods and cultures of the local communities. This is an effective way to develop forests and consists with habits and customs of local people who are direct forest users and managers. They manage forests by means of customary laws and/or village regulations of forest protection or plantation. Local people are main subjects and active, positive and decisive factors in every local activity, because they understand clearly difficulties and expectation as well as potentials of their communities. They do know how to promote and connect members in the community and response their activities. The facts have shown the success of community-based forest management in many areas .

CBFM means the local community manages forests that are under the management, use or ownership of other organization, but have a direct relationship to their life and livelihood, income or other community benefits such as irrigation, water supply, etc. With this understanding, forests are divided into two objects: (1) Forests of households and

individuals who are members of the community and (2) Forests under the management, use and ownership of state organizations (management boards of protection forests, special-use forests, forestry farms, state forestry companies, camp stations, etc.) and other private organizations. In the former one, community participation in forest management bases on cooperation to be mutually beneficial, share benefits voluntarily (giving more power to forest protection, supporting or exchanging for each other in forestry activities, etc.). In the latter one, communities participate in forestry activities such as protection, zoning for regeneration, forest rehabilitation, afforestation as hired labourers through contracts and benefit under contractual commitments (MARD, 2006).

The role of local people in forest management in generally or and in community forest management in especially has been more concerns by scientists and policy makers as well. Since 1990s, the policies of forest land allocation have given the rights of decision and management to local people motivating forest owners to use forest land in a sustainable way, increase forest-related income and support environment protection (Bui, 2006; To, Tran, & Zagt, 2013). Land allocation also contributed to the sedentary livelihood for shifting farmers and reduced slash and burn forests for cultivation (Castella, Boissau, Nguyen, & Novosad, 2006). In early of 2000s, the legal recognition of land tenure and community forests has continued to encourage the development of community forestry (Tran, 2012). In general, the government has established a solid foundation for the development of CBFM through the renewal of land tenure policy. Land and forest allocation in a long term is an important and necessary prerequisite for local communities to manage forests sustainably, benefit from forests and participate actively in decision-making.

The legal position of the community when participating in forest management as a forest owner with full rights and obligations are defined in the Land Laws 2013 and the Laws of Forest Protection and Development 2004. Government has recognized and institutionalized the forests that have been recognized by the community for a long time. Policy aspects allowing the extension of forest types to community-based management, such as protection forests, buffer-zones of special-use forests assert that community involvement is an undeniable practice, whether institutionalization exists or not, because it is a fundamental feature of the long-standing upland culture and community relations. Therefore, the recognition of the people as a legal entity is always beneficial for forest management. This is asserted in the Laws to confirm the local people and community have legal capacity to manage, protect, use and enterprise the forests.

Economic development activities of local people also have positive impacts on forest management and protection such as afforestation and agroforestry development. For the most effective management of the forests, people's participation should be promoted in terms of the correlation between the demand and use, the abundance of resources and other impact factors (Arnold & Pérez, 1998; Nguyen, 2016; To & Tran, 2014).

People's role promotion in forest resource management means enhancing the community strength and promoting the initiative, creativity and responsibility of local people into contribution of effective and sustainable forest management. Assessing the

role of people in forest management and protection will know how people and communities are involved in forest management, thereby contributing to promoting positive impacts and limiting negative impacts on forest resources, contributing to the sustainable forest development. This research was carried out with the purpose of understanding the role and influence of people on forest management and protection to contribute to the sustainable management of forest resources in Vo Nhai district, Thai Nguyen province, northern Vietnam.

2. Methodology

2.1. Study area

The research was conducted Nghinh Tuong, a mountain commune of the southeast Vo Nhai district, Thai Nguyen province, northern Vietnam. It is situated 70 km of Thai Nguyen city. The topography is quite dismembered with the most of the area altitude from 500 to 1000 meters. Slope inclination ranges from 10⁰ to 20⁰, which is a difficult for agricultural cultivation. Total mass land accounts over 8.4 thousand ha, in which forest land occupies nearly 90% (PFD, 2010). Nghinh Tuong located in buffer zone of the Than Sa - Phuong Hoang Natural Conservation Area. This forest area is on limestone of Ngan Son mountain range with many common features of limestone mountain ecosystems in Vietnam. Therefore, fauna and flora diversify with many precious species.

Two minority ethnics, the Tay and the Dao, are dominative residents in this area. The population is distributed unevenly, mostly in the valleys, along the roads and near rivers or streams which are capable of farming. The people have low income, mainly generated from agricultural cultivation and forest-related livelihoods. The number of poor households occupies over 50%. The social services and infrastructure are lower development in comparison with other commune in Vo Nhai district.

2.2. Methodology

This study used a mixed method approach including household survey by questionnaire, qualitative interviews and observation.

A *household survey* was carried out randomly with 100 households in Nghinh Tuong commune. Face-to-face interviews following a questionnaire was chosen to do the survey. The questionnaire was designed from documentary of research areas and issues, participation observation and the local context of research issues. It includes close and open questions divided into six parts: personal information of interviewees, forest allocation and protection, agro-forestry development, people's awareness on forest management and protection, assessment of the roles of local people in forest management and protection, and forms of forest management.

Face-to-face interviews were performed with 100 people, in which 63% are men and 37% are women. More than a half of respondents (57%) graduated high schools while the percentages of respondents graduated secondary and primary schools are 35% and 8% respectively. Age of interviewees distributed from 24 to 77 years old, in which age of 30 to 50 dominated approximately 60% in total.

Qualitative interviews were carried out with 14 people who are local foresters and staff officers in Nghinh Tuong commune. Interviews were conducted with individuals using open-ended questions. The interviews focus on forest management and protection; governmental policies in encouraging participants of local people in forest management. The interview information was recorded by notes, recorders and transcribe verbatim.

Observation is a technique to collect informally data that give an overview of physical and social features of study area and community. Data obtained through participant observation also served as a check against participants' subjective reporting of what they believe and do. The observation occurs in the time of interviews, village visiting and travelling or even in informal talking.

In observation, some images also are kept in photographs as illustration of the research.

3. Results

3.1. State of forest management in the research areas

Administratively, forests and forestland was managed following three forestland types: Special-use forests; protection forests and production forests. In Nghinh Tuong, these forest types are allocated to different forest managers.

Special-use forests: The management board of the Than Sa - Phuong Hoang Natural Conservation Areas manages special-use forests in Vo Nhai districts, in which 1.98 thousands ha of special-use forests located in Nghinh Tuong commune. Since 2013, the management board has contracted with 11 households in Nghinh Tuong and an organization for the protection of about 1.2 thousand ha of special-use forests. After the success of the first year of contracting, in the following years, the number of households receiving the forest protection contracts has been increased. In 2016, 68 households in this commune contracted to protect 1.7ha of special-use forests.

Protection forests: The area of protection forest has been allocated to Commune People's Committee (CPC) with 3.046 thousand ha. The CPC in Nghinh Tuong allocates this forest to some households and 4 villages namely Thuong Luong, Ha Luong, Na Leng and Ban Cai to protect and develop the protection forests.

Production forests: There are 2.78 thousand ha of production forests in Nghinh Tuong commune. This area is allocated to 363 households, in which 272 households have had forestland certificates of 1.6 thousand ha since 2013. The remaining households are in process of issuing the certificates. The certificates of forestland tenure give to local households an assurance to invest and develop their allocated forests.

3.2. Participation of local people in forest management and development

3.2.1. At village scale

Nghinh Tuong CPC manages 3.219 thousand ha of protection and production forests. The protection forests are allocated to 4 villages namely Thuong Luong, Ha Luong, Ban Cai, Na Leng. Each village has a team to do the duties of management, patrol and

coordination with forest rangers and authorities to detect and timely deal with infringements in forests of the villages. Members of forest protection team are well aware of the role of forest management and protection and are trained by forest protection officers on forest management. Depending on area of the managed forests, the number of members in each village is from 8 to 10.

Twelve villages in Nghinh Tuong have the forest protection convention, which has been established and passed through generations. The convention regulates forest protection and prevents deforestation. Until now, community regulations of forest protection have been maintained and implemented. In addition, the commune authorities also collaborate with forest rangers and forest protection teams to regularly patrol and inspect key areas for forest fire prevention, to ensure protection and development the local forests.

3.2.2. At household scales

a. Contracting the special-used forests and protection forests

Forest contracting creates an income for local households as well as develops forest quality. The forest contracting also improves the local people's knowledge of forests resources and forest protection. In 2016, 68 households in Nghinh Tuong had protection contracts of 1.7 thousand ha of special-use forests. The payments is 200 thousands VND per hectare per year. However, number of households having contract counts small proportion in total number of households in the commune. The results of the survey showed some reasons for this limitation of contracting.

The total area of forests in this payment policy is not enough for every household (51% people agreed with this reason). Almost 30% of interviewed households said that their families lack of labours to contracting or live too far from the forests. Some others did not register contracting (22%). Most of households have not received forest contracts expected that they could do it in the future.

In the forests managed by households, the households themselves did reforestation and restoration activities. All protection activities should comply with the village customary laws. Management of the household is in fact a highly stable form of management in terms of production and ecology. Because farmers benefit directly from the forests, they restore and plant new trees in their forests annually.

b. Economic development from production forests

Almost households have production forests to develop plantation forests. Since implementation of forest allocation policy in 1990s, the area of plantation forests in Nghinh Tuong has been increase considerably. This makes change the landscape of the area and improves the local economics leading to reduce pressures on natural forests.

Plantation forests provide to forest owners fuel wood and an income from wood selling. The popular species in plantation forests is *Acacia hybris*. After 5 to 7 years, forest owners can earn from 65 to 70 million VND/ha from selling plantation wood. Besides, plantation forests supply fuel wood for the forest owners.

In the past, forest-related activities dominated extraction of forest products, has not attached special importance to forest plantation and forestry economic development. Recent years, they have been developed forest plantation, either following in plantation projects or self-investment. For example, in 2015, the 147 project of forest plantation funded for 60 households to plant 60.2 ha of production forests and 7.4 ha of protection forests. While local people invested to plant about 100 ha of forests by themselves.

Forestry economic development

The local people's concerns of forestry economic development have been increased recently. Almost a half of interviewed households have developed forestry - related economics and they expected to widen if they have money. Many households have been non-poor in spite of forestry economic development.

Agroforestry is a model supports for local economic development. Many local households grow forestry plants, fruit plants or medicinal plants in their forests. Although agroforestry has not developed comprehensively in the whole commune, some effective structures of agroforestry have successes in the areas such as:

- *Forests and terrace paddy fields*: Forests regulate and supply water for terrace paddy fields below, prevent soil erosion. Village community manages these forests. This model exists in two villages having higher geographical positions than other villages, called Thuong Luong and Na Hau.

- *Forests and fruit trees or medicinal plants*: some species are new planted alternatively in the forests such as *Cinnamomum verum*, *Illicium verum*, *Aquilaria crassna*. In Na Hau villages, 18 households participated the plantation projects of cinnamon-tree, with the area of 3ha. Some households in Na Leng, Ban Cai growth fruit trees on forest lands.

Nowadays, there are some projects of fruit tree developments such as planting mandarin trees (20 participants with 3ha) in Thuong Luong villages, or planting *Diễn* pomelos (21 households with 5 ha) in Ban Nura and Ban Cai villages.

- *Agroforestry and small livestock husbandry* have been developing in Na Chau, Na Leng villages. This model follows the belts of forests - fruit gardens - paddy field - aquaculture and combination of raising domestic livestock and poultry

3.2.3. At individual scales

Roles of local people in forest development are evaluated by their awareness of forest importance; participation of forest management and protection activities; and forestry-related information exchange

Local people's awareness of forests importance

In the survey, all interviewees have awareness of the importance of the local forests with their lives such as: local climate regulation, water supply protection, supplies of foods, medicines and household economic development. Their knowledge has been increased due to education program on media and their information exchanges.

Participation of forest management and protection

Individual participation in forestry-related activities differentiates between men and women. More men go to the community meetings or propaganda programs than women do. In the family, assessing information of forest development also differs from males and females. Two third interviewees said that the husbands in the family have received information firstly in their family, while this number for women accounted only 6%. The man also is a decision maker in the family with 94% of agreements while only 6% of households have discussion between the wife and husband.

The information access and exchange:

People in Nghinh Tuong are minority ethnic, thus, the popular way to access information is oral and direct ways such as meeting and talking. The survey result shown that local people mainly receive forestry-related information from forest officers (48%), from talking with their neighbours (25%) and from propaganda programs. Only few people said that they have self-awareness of forest information (figure 1)

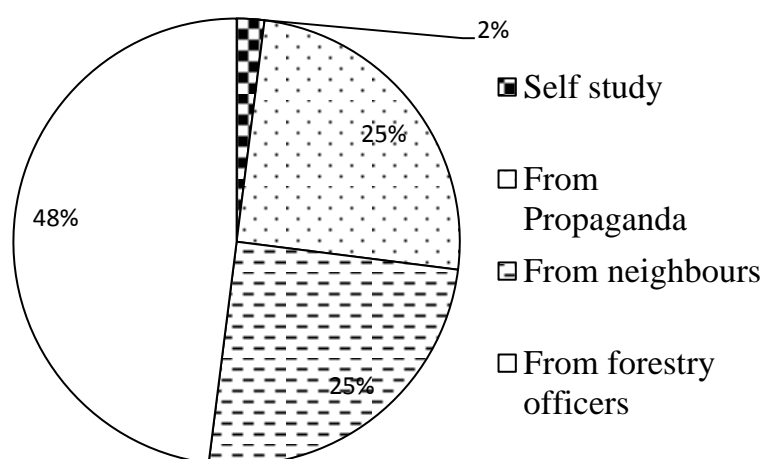


Figure 1: Ways of information access

The people in Nghinh Tuong have good awareness of forest ecosystem changes, forest importance and the necessity of forest protection, thus, they could have suitable activities to conserve the forests. The timely information access and exchange also affect the participatory of local community in forest management.

4. Discussion and Conclusion

4.1. Effective assessment of forest development

Socio - economic effectiveness

Implement forestry development to stabilize housing, create jobs for people, avoid slash and burn cultivation. Diversifying type of plantation species in agro-forestry development not only ensures food supply but also brings more income to the family. Many poor households get richer from agroforestry. The rate of poor households in 2016 is 53.66%, decreasing 3.59% in comparison to 2015. Human well-being, education and healthcare systems in the area have been more and more improve.

Environment effectiveness

The forest ecosystem in Nghinh Tuong has been changed due to governmental policies and participation of the local people in forest management and development. The changes were recognized by the local people in the survey of forest quality assessment at the time of 10 years ago and current time (figure 2).

To assess of forest quality ten years ago, number of respondents giving bad evaluation accounted 60% while number of good assessments was only 2% of the respondents and 38% of respondents give neutral assessment. The result of assessment at the current time shown that almost respondents agreed with good or very good evaluation of forest quality, only 8% give neutral idea.

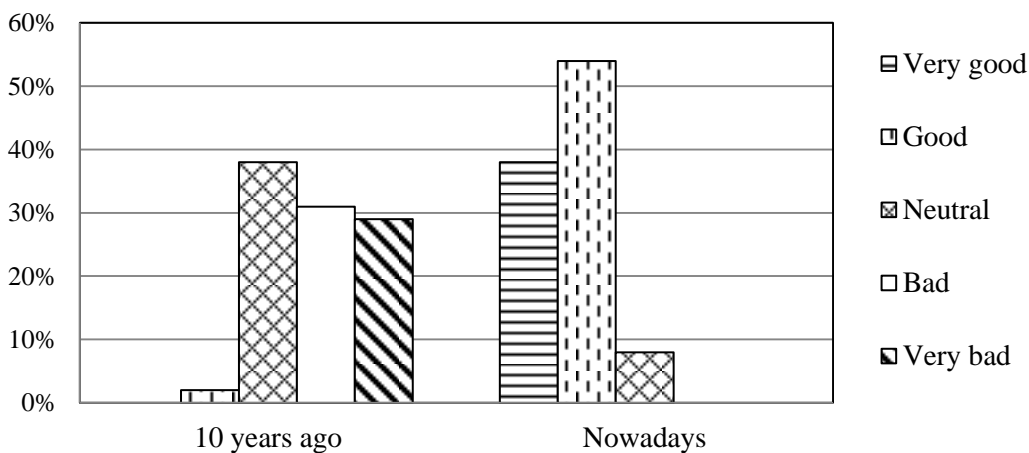


Figure 2: Assessment of local people about the changes of forest quality over times

The different evaluations between 10 years are explained by increasing forest plantation forests and reducing natural forest exploitation. Since 2007, forest plantation policy has been applied and developed in the area. After 10 years, the plantation forests have been increased considerably, leading to increase household's income from selling plantation wood and decrease fuel wood exploitation, slash and burn cultivation in the natural forests. The land covers also has been grown by naturally forest regeneration on up-land fields. In addition, forest fire prevention and sustainable extraction of non-wood forest products have been more concerns by the local people, thus, forest ecosystems are better. Positive changes of forest ecosystem give different environmental benefits for nature and the local people such as soil degradation prevention, soil nutrient improvement, and climate and water regulation. Thus, the local people gave positive assessment of forest quality at current time.

4.2. Overall evaluation of local people's role in forest development

There is no denying the role of the local people in forest management and development. In Nghinh Tuong commune, the local people participate actively and positively in forest protection and development, which is foundation of implementing community-based forest management. However, the participants of the local people in forest management still exists both advantages and disadvantages.

Advantages

- The local people are conscious and willing to participate in forest management and protection. Their lives have depended on forests since a long time, thus, they know clearly about the local forests and have their own village regulation of forest use and protection. They also actively participated in forest contracting and forest plantation in the area. They manage large area of protection and production forests in Nghinh Tuong commune.

- The ability of cooperating among local organizations and individuals in community creates strength in forest management. The forest protection teams in different villages support each other and call the supports from local households or individuals, especial in controlling or preventing forest fires or in catching the illegal forest exploitation.

- The effectiveness of agro-forestry encourages investment from the local households and attracts development projects from outside investors. This supports local economic developments, especially forestry economics and reduces pressures on natural forests. Moreover, transporting convenience enhances the agroforestry development and trading products.

Disadvantages

- The education level of local people is not high. Most of farmers has not attended high school, thus, it is difficult for them to access new technology or give plans of financial management and development.

- The local people lacks of capital and technology. The proportion of poor households is high, thus, the financial investment of the local people is limited. Agroforestry still keep in small scales, based on their income.

- Markets of output products is limitation, thus agroforestry development still be in the household scale and depends much on outside traders.

- The advantage of commodity transport and exchange can increase the negative impacts on natural forests. The outside demands will encourage people to extract forest products for selling, causing over-exploitation of natural forests.

4.3. Conclusion

The research focuses on analysing participants of the local people in forest management and development in Nghinh Tuong commune, Vo Nhai district, Thai Nguyen province to improve the role of them in forest development toward sustainable forest management. The research showed some main following results. Three types of forests at the research area are located to forest owners, in which, the local people manage major parts of forests. The participation of the local in forest management and development at different scales (community, household and personal) promotes effectiveness of forest protection and socio-economic development. The overall assessments support for decision makers to enhance advantages and reduce disadvantages in impulsion of the local participation in sustainable forest management.

5. References

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