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LINKAGES BETWEEN TIMBER PROCESSING COMPANIES AND LOCAL FOREST COMMUNITIES: A CASE STUDY IN VIETNAM

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Abstract

The timber processing industry is currently increasing in Vietnam to meet the demand of wood products. Besides the involvement of companies, many small-scale farms have evolved in industrial plantation of forest. There are many types of economic linkages have been established between the private forest sector and local forest planters. However, the implementation of these economic integrations has not been effective so far because the connection between the wood companies and farmers has shown weaknesses and the legality of the contracts is not high. Thus, in recent time, many wood processing facilities lack raw timber materials while the planters have to sell their wood at low prices when the harvest season comes. The people whose livelihood depends on the forest are still poor, the household economy in forestry shows many limitations and much fragmentation, and the effectiveness of forest plantations, harvesting, wood processing and forestry production have not been commensurate with the potential. The purpose of this study is to examine models of agreements between wood processing enterprises and local forest communities; also initially discussing the hypothesis of the main factors that make the implementation of the timber trade contracts becoming less effective. The paper try to find the policies recommendations and efficient solutions for developing the agreements between timber processing companies and local forest communities. The study is a part of growing the body on the research on linkages in timber production and marketing. By finding the weaknesses of the timber trade agreements, this study will contribute to future researches on related topics.

Keywords: Linkages, timber processing company, local forest community, agreements.

1. Introduction

Economic linkages between timber processing enterprises and local forest communities have been increasingly established in Vietnam as an effective solution to some problems regarding to meet the material demand for wood industry, contribute to job creation and alleviation of poverty, improve livelihoods and protect the ecological environment. Although the agreements between the private forestry companies and local growers are becoming more common, they are not always tight and beneficial for both parties. More recent researches have occurred in the field of successful relationship between forest sectors and local actors, however very little is shown the reasons that make implementation of the timber trade agreements become less effective.

According to the statistics of the General Department of Vietnam Customs, the woodworking industry has become one of the main export industries of Vietnam in recent years. By the end of December 2017, timber and wood products export turnover about US\$ 8 billion, up 10% over the same time 2016 and it is expected to continue in the coming years. The strategy in forestry field of Vietnamese Government has been focussing on decreasing gradually the import of timber materials and increasing the domestic wood supply instead. Therefore, it is necessary to enhance and strengthen the relationship between the private forestry companies and local planter communities.

The objectives of this study is to (1) examine the typical models of agreements between wood processing businesses and local forest growers that have proven successful and having potential for replication and that have less effective; (2) initially discussing the hypothesis of the main factors that effected on the timber trade contract; (3) proposing the efficient solutions to improve the linkages between timber processing companies and local forest communities.

2. Linkages between Timber Processing Companies and Local Forest Communities

2.1 Theories on Forest Company-Community Linkages

Before going further, it is necessary to provide meaning of some terms that we use in this paper: 'timber processing company', 'local forest community', 'linkage'.

Timber processing companies are enterprises established with the aim of making profit through producing products from timber. These type of companies include large-scale coporations to small-scale private enterprises (J.Mayers, 2000). In Vietnam curently, there are about 4,3 thousand of companies working in wood processing industry, of which approximately 95% belong to private businesses and 5% are from government; firms with FDI investment is 16%; and about 20% of the total number of enterprises participating in direct export, 80% remaining may undertake processing orders for direct exporting firms and domestic market oriented manufacturers (T.X.Phuc, 2017). In the limitation of this study, we focus on small to medium private firms.

Local forest communities refer to local people who grow and manage forest on their land and get a livelihood by selling timber.They include individual small-scale farmers and farmers' groups or cooperatives (J.Mayers, 2000). According to the forestry statistic from Vietnam Ministry of Agriculture & Rural Development (2017), the estimate of total forest landcovered in Vietnam curently is 14,4 million of hectares, in which the planted forest is 4,1 million (ha) and natural forest is 10,3 million (ha). Under the Vietnam's forest policy, timber are not allowed to exploit from natural forest, replacing this all materials would be used from planted forest and import. Thus, grower shemes play an important role not only for significant contribution to the rural community's income but also being one of the main supply chains of materials for wood industry. This study, we concentrate on small-scale timber grgrowers and farmers' groups because they own up to 70 percent of hectares of planting forest land (T.X.Phuc, 2017).

Linkagerefer to the range of relationships and interactions between two or more parties that actively link together by economic legal contracts, formal or informal agreements on the expectation of mutual benefit (Curtis and Race, 1998). This paper uses the term linkage to describe the connection between wood processing enterprises and local grower communities formalized by contactual out-grower schemes, joint ventures or legality contracts with the intent to produce commercial forest crop. Their combination bases on the trust and voluntary agreements. Accordingly, the growers provide forest land and trees management while the companies provide initial finance, management and market opportunities. We primarily pay attention to the processing and growing related to timber trade. Non-timber forest products and forest services of partnerships are not mentioned in this report.

Vertical linkages is the trend of some timber processors because it typically benefits wood firms by providing potential to increase resource security for long-term through diversity of resources supply; efficiency and profits by controlling all the stages of timber production; reducing financial risks of landholding and timber growing, labour and management costs (J.Mayer et at, 2000). The forest communities get the attraction to the partnerships by expectation on chances to obtain the reliable cash flow, in terms of increasing income and spread the market risks through ensure sales; silvicultural physical support and advice with skills in treecrop management and establishment (Curtis and Race, 1998).

2.2 Typology of Forest Company-Community Linkages

J. Mayers and S.Vermeulen (2002:viii) state that there is no perfect, efficient and sustainable combination that has been bringing benefits to partnerships in a long-term basis. However, if the connection work reasonably well, it can bring the concrete economic pay-offs not only for both parties but also broader benefits to local communities especially in rural areas.

Depending on the difference of each area's characteristic such as economic development, the parties involved, resource based, there are many various of arrangements collaborative linkages that can be established between companies and communities in different ways (World bank, 2008).After comprehending some researches with regard to these fields, we summarize the common currently commercial forest ventures as bellow:

- *Lease joint venture*: In this connection the landholders and the industry together make a lease contract, in which the landholders will contribute their forest land and will be responsible for maintaining the site such as fire breaks and weeds. The company will establish and manage timber production. Regular payments are given to the landholders over an agreed period. The implementation of the joint venture has achieved good result. Lease payments satisfy a range of socio-economic interests of farmers because they find that returns are considerably higher than their neighbouring grazing enterprises and the type of this venture is the most popular in Australia.It has established up to 82,900 ha, comprising 8% of Australia's plantation estate since the mid-1980s (Curtis and Race, 1998).

- *Cropshare joint venture*: With this link, the grower and the company share proportionally inputs such as seedling, planting, and these cost are all recorded. Farmers can join in the forest establishment and management or they may contribute the land only. When harvesting, profit returns will be divided proportionally for both parties base on their contribution. J. Mayers et al. (2002) found that the cropshare deals have been drawn farmers who own underutilized agricultural land with poor access and low productivity.

- *Out-grower scheme*: Company will provide landholder with physical inputs such as seedlings, silvicultural training for forest establishment and maintenance, amount of loan following the purchasing agreements in the contract. The farmer growand maintain trees on their land under the controlling of the company over wood production. When the trees are reached to standard quantity and quality harvesting, the company pays for timber at current market prices. The out-grower integration is attractive growers by some advance payments for their works and guaranteed market when harvesting. The company find the benefit through saving investment in developing their own forest assets and avoiding the potential of expensive liabilities. This scheme has been popular in South Africa (J.Mayer 1998)

- *Marketing join venture*:The company might provide growers free genetically-selected seedling and silvicultural advice, also assurance of a sale according to the market price at the time of harvest. In exchange, the growers isrequired to offer their company partner the first option of purchase, however if a better price can be found, the grower may sell to another purchaser.

2.3 Important Factors for an Effective Forest Company-Community Linkage

The impacts for a successful linkage differs depending on each type of arrangements. The main possible factors for a better forestry linkage has been derived from previous researches and lessons learned about failure and success in forest company-community relationship:

Firstly the arrangement must be *legally valid and fully bargained* by parties. It is necessary for a commercial timber contract to follow local law because this would increase and emphasize the responsibility of partnerships in the implementation agreements or just in case, if there is any disagreement happening between partners, third party will play the role to arbitrate. Furthermore, if the issues and interests in each issues are identified clearly by both sides, it will lead partners to have common expectations in their connection and to find effectively the best opportunities for prospective collaboration. As Curtis and Race (1998) pointed that "the value of joint ventures will be limited when either the grower or industry is restricted in their ability to negotiate linkage arrangements".

Secondly, the parties must have *mutual respect* on each partner's legitimate aims and *trust* one another when create a relationship. N.V.Quang et al., (2017) considered that the core values for the

successful linkage is the trust and fair sharing system among participants. The company and growers take part in joint venture voluntarily to find from each other mutual benefit so that belief is one of the necessary important requirements to maintain and develop the reality integration for long-term. Without trust and respect, uncertainties will run high and finally negate positive elements of both sides. Small problems may become large problems.

Thirdly, benefit and risks must be *shared equitably* based on the contribution of each side. For every economic linkage especially in forestry area, only after the benefit can be increased and the risks in production, market, social and environmental terms can be reduced, it would be secure for a sustainable development.

3. Linkages between Timber Processing Companies and Local Forest Communities in Vietnam

3.1 Characteristic of Wood Processing Companies

As a research on Vietnam wood industry of Trang et al. (2014) considered that there have been three types of wood company established as follows: 1) timber and non-timber forest product processing enterprises: they are mainstream businesses in the wood industry; 2) wood processing firms operating and locating in the craft villages: these firms are established in the form of households and they both follow general law applied for business activities and policies related to craft villages; 3) commercial timber processing households: they are mostly small scale private manufactures and they might not be located in craft villages. However, the number of private timber processing family firms are not much so there are not any statistic data on these businesses.

In general, the scale of most wooden enterprises in Vietnam is medium and small and their locational distribution is uneven and not close to the forest material areas. The majority of firms (80%) located in the south and the south central coast of the country (Vietnam Ministry of Agriculture and Rural Development, 2017).

Small-scale wooden enterprises might easily get big adversely affected by uncertainly input supplies and unexpectedly changing purchase orders because they lack of capital in stock raw materials for processing over a certain period of time in order to adjust to fluctuations. Further to this point, T.X. Phuc (2017) considered that the ability of small-scale wooden enterprises in obtaining loans is not high and meet many difficulties, especially with enterprises which not produce products for export. In fact they are not allowed to take foreign currency loans but at the same time they have to use foreign currency to import input materials for processing. This is one of the main factors that limits the development of small-scale businesses. Besides, having a low level of capital might put firms in disadvantaged conditions to meet the changing or increasingly stringent requirements of export markets (N.V.Quang et al 2017).

3.2 Characteristic of Forest Growing Communities

In Vietnam, almost all timber growers are households or cooperatives. However, according to the statistic of General Statistics Office of Vietnam in 2016, there are about 44 cooperatives working in forestry field and the problem with regard to breaking contract between companies and cooperatives is not high in fact so we focus on individual timber growing households in this study.

Most growers live in countryside and grow trees in the mountainous region. With many farmers, their livelihoods not only depends on agricultural production but also base on tree planting and timber producing is an economically driven activities, providing a source of income.

Because of living in countryside areas with inadequate information concerning timber demand and price, growers do not have much knowledge of market specifications and little linkages with market agents. They get used to with traditional ways to grow trees, lacking the up-to-date silvicultural knowledge, planning capacity, and skills required to maximize productivity.

Table 1. The Characteristic of Timber Growing Communities

Characteristic	Households	Cooperatives
<i>Land for growing trees</i>	Small farm size and scattered woodlots. Approximate 1 – 3 ha per household.	Large woodlots and concentrated. More than 100 ha
<i>Harvest and marketing</i>	Sell standing trees for brokers, companies Pay high cost for harvest and transportation	Self-exploiting trees and transfer to the company
<i>Vertical linkages</i>	Mainly intermediary agents such as: timber buyers, wooden exploiters, transporters	Wood processing companies
<i>Mode of transaction</i>	Formal – informal agreements	Legal contract
<i>Profit</i>	Small	Stable

Consequently, they have difficulties in assessing the value of their trees and how and where to market them, even if they know they still have to pay much for high transportation cost to transfer timber from their land to the company. That is why they easily decide to sell their trees when they meet good price from timber brokers who come to villages in search of trees to fell.

3.3 Typical Models of Forest Company-Community Linkage

- *Model 1: Company-community linkage in improving timber plantation with forest certification:*
This model has been established to meet the requirements about the timber materials which have FSC certificate (Forest Stewardship Council, a certification for timber) for the inputs of the company's production. In this model, the company does not make the commercial contract with individual households, they work with farmers' groups only. The growers who want to join this linkage, they must be gathered into a group and one person in charge on behalf of those will sign in the contract with the company.

The farmers contribute their own forest land when join in the relationship. *Out-grower scheme contract* is used in this model.

Table 2. The Form and Structure of the Linkage

Obligations & Interests	Company	Group of Growers
Obligations	<ul style="list-style-type: none"> - Supporting expenditure for group's activities regarding to improve the forest. - Providing loans for growers to last the growth cycle of timber. - Training growers in developing and managing the forest following the requirement of FSC. - Supporting grower expenses to obtain FSC certificate. - Undertaking to buy all timber with higher cost (10-18% at least) than market price when harvest. 	<ul style="list-style-type: none"> - Following tightly all planting requirements of the company. - Lasting the cycle of growing timber to obtain maximum size. - Undertaking to sell timber to the company when harvest.
Interests	<ul style="list-style-type: none"> - Having the secure material inputs - Initiative management in material sources, reduce the imported inputs 	<ul style="list-style-type: none"> - Opportunities to approach loans with less or free interest rates. - Improve the knowledge in technology, silvicultural training for forest establishment and maintenance. - Safety output market and increasing income

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The disadvantages of this model is the company only accept woods which reached standard quality requirements and farmers have to find other markets for their remaining woods which do not fulfil company's expectations. This became a reason that make farmers break the contract because they can easily compare the final profit they might get after harvesting.

- *Model 2: Company-community linkage in improving timber plantation without forest certification:* The company and the community make a joint venture by a *lease contract*. Following this model, the farmers grow trees as their traditional ways, not any timber certifications are required from the company. There are two circumstances are applied for this type of connection:

1) The forest lands belong to the company: In this case, the lands and capital and all needed supports in terms of planting, improving and maintain the plantation will be provided to household or cooperative to produce timber material. When harvested, a quantity of trees must be returned to the company as agreed in the contract and the farmer can earn profits from the number of extra timbers during their production which are not mentioned in the lease agreements.

With this model, if the companies actively manage the plantation, they can reduce the risks as well as ensure the quality and quantity of the timber materials. However, it is difficult for the company to expand the model because of their limited forest lands.

2) The forest lands belong to the community: The company will give growers a loan through an economic contract to grow trees. Besides, company will provide farmers all needed helps during growing trees such as instruction and science in planting forest. Farmers have to sell trees to the company when harvesting. Requirements about the number of timbers that must be sold to the company are not mentioned in this case.

The advantages of this model is the company can expand the forest plantation, even with some enterprises which do not have any their own forest lands they are still able to join this venture. However, the number of growers who broke the contract in this model is high and firms meet many difficulties in recovering their capital.

3.4 Factors That Influence the Implementation of Timber Trade Agreements

The culture in timber production of growers: We have experienced that most factors was found effecting on the implementation of agreements come from the growers because they are always the side that give the final decision about choosing which company to sell trees for. Instead of working with aims tending to social development, they think for themselves and give priority to their own benefit than other things. However, the question is given here for the next studies that what the contents of 'culture' is? Is this the core of the reason? Although the farmers have a good comprehension in trees management and opportunities in establishing forest stands and they understand clearly about the good benefit potential they might have with the long cycle of forest, they still sell timber before it achieves the optimum size for sale because of some reasons as follow:

-According to the statistic from Vietnam Ministry of Agriculture & Rural Development (2017) about forestry, most growers (70%) live in mountainous areas where people are still poor and their livelihoods base on agricultural production activities. Because of inadequate market information and facilities, it not easy for farmers to get the information about the timber purchase price from the company. Thus, there are many members in each family so they need money fast for some urgent needs such as: money for their children to go to school, for some treatments in the hospital. As a result, they can not wait till the harvest time as expectation because they do not have many cash-flow supplies. This problem happened with all models of forest company-community linkages.

- With the model 2, in the case of forest lands belong to farmers, in fact the initial supported loans from the company are not enough to maintain the forest in at least 7-8 years as require of timber production, normally growers have to borrow money at the year of 2 or 3 of the tree and they have to return it within 3 years later. Accordingly, growers sell their trees mostly in the year of five of the tree. On the other hand, as growing timber in the mountain with difficulties in transportation and they do not have any helps from the company when fell and move the trees, growers always have the trend to harvest at the same time with neighbour lands to save transfer cost.

The competition in raw material inputs between woodchip industry and wood processing enterprises: As the woodchip market has expanded remarkably in recent years, there are many new

woodchip processing firms established with competitive price for buying input materials. A cycle of good timber production till harvested is quite long, normally 7-8 years and it can be lasted 12 – 14 years following each company's requirements. However, woodchip firms can accept timber even they reach 4-5 years. Thus, the landholders have many choices to sell their timber when harvesting. If this factor have a part in impacting on the farmers's decisions when harvest season comes, what is the best solution to improve effectively both industries? In addition, the government does not have control over the timber harvested from household growing farm, so many people fell trees and sell them following their own thinking to solve the problem of capital and forest plantation cost.

The role of local authorities: It is difficult for companies to deal the problem if a large number of households breaking the contract as the situation at the model 1, because they can not suggest legal proceedings with community groups so in this case the role of local authorities is very necessary. However, a little research shown the role of third party when risks happened.

4. Conclusion and Recommendations

The linkage between forest companies and communities plays an important role in the development of wood industry. We found out that two typical models applying for forest company-community relationships in Vietnam: lease joint venture in improving timber plantation with forest certificate, cropshare contract in plantation without forestry certificate. Three impact factors on less effective model of linkages in Vietnam wood industry was found: the farmer's culture in timber production, the active development of woodchip processing and the limited role of local authorities, however they are only hypothesis under the limited of this paper. To promote this relationship, some recommendations for better linkages are proposed:

- The State institution should promote innovation and have in place a comprehensive set of policies: accessing to credit especially for growers to keep timber in the final cycle years, providing favourable loans terms for business and timber production, providing available forest lands which ineffective using from forest enterprises to communities

- Strengthen the role of local authorities not only for creating a favourable conditions to promote the linkages and bring trust to companies, but also having stronger sanctions to deal the unexpected problems regarding risks, breaking contracts from the communities.

- Improve communities' silvicultural skills by facilitate training for growers in collective action and developing business links with timber industries; enhancing farmers' knowledge of timber markets, the timber quality required by industries and the prices for timber of varying quality.

In the context of Vietnam, the culture, society and economic environment are not the same as those of the developed countries where most of concepts and theoretical frameworks of linkages in forest company-community came from. Research on the relationship between forest companies and timber growers communities may provide different results compared with other studies in developed countries.

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