

Lessons learned from the development in Bai Bang

*- A summary of historical successes, setbacks and future
challenges*



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Cover art: An office overlooking small areas of forest in an otherwise deforested area. Photo taken by Mats Sandewall in 1981 and is located in Ham Yen north of Bai Bang.

Foreword

Restoration of degraded forests is very high on the agenda. Restoration work has been going on for a long time but has met many difficulties along the way. This affects both intensive industrial plantations and small-scale farm forestry. If programmes for restoration are to succeed on a large scale we must try to learn from both successes and failures.

One can easily gain the impression that plantations in the South are a great success. In reality many plantations have failed. Many projects run into social problems that attract attention in the domestic and international media. Many argue that the best solution is to engage farmers in production, but this is also a real challenge. The bare hills around Bai Bang that looked like a desert in the 1980s are now covered with forests. The first plantations were established by state enterprises and co-operatives, but after the economic reforms in 1986 (Doi Moi) farmers started to plant trees as a commercial crop. Today, it is reported that more or less all the wood for Bai Bang is directly or indirectly produced by farmers. It is interesting to note that the farmers seem to have adjusted the original “intensive” method to suit their own conditions. The open landscape around Bai Bang has been converted into forest, but in spite of this there is no talk of conflict.

This report is part of the project “Experiences from Vietnam” at the Secretariat for International Forestry Issues (SIFI) at The Royal Swedish Academy of Agriculture and Forestry (KSLA). The purpose of the work is to summarise parts of the experience available regarding the development of farm based forestry in Northern Vietnam and particularly near the pulp and paper mill Bai Bang. The report gives a reader, not familiar with the unique development, an introduction to the history of Bai Bang and its importance for rural development and reforestation of Northern Vietnam. The report will also highlight today's Vietnam from various factors that may have a future impact on the progress made both near Bai Bang and the rest of Northern Vietnam. Lessons learned from Bai Bang may also be used in other parts of the world. This report is also a background document for the seminar on June 3 at KSLA. The seminar highlights Swedish experiences from the development project in Bai Bang, Vietnam, and opens up a discussion about how these lessons could be applied in other parts of the world.

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1. Introduction

In the future the demand for food, fibre and fuel will increase globally. Meeting a growing demand for food, fibre and fuel with scarcer land resources and a growing population worldwide the challenge is severe. According to the report *The global need for food, fibre and fuel* (KSLA, 2012) there is an apparent need to:

1. Increase productivity on land already in cultivation.
2. Improve management of land and water.
3. Create and improve cross-sectoral policies and adapt institutions.
4. Increase efficiency of existing resources.
5. Enhance knowledge and translate it into action.

Society need to go from the current idea of: food versus fibre versus fuel and try to approach the problem by combining food, fibre and fuel production in a long term perspective (KSLA, 2012).

1.1. Bai Bang

Thirty years ago Bai Bang was inaugurated (Sida 2012). It was part of the most expensive development project ever initiated by Sweden. It was once considered a failure by some in Sweden, but nowadays a contributing factor to the enhanced factor of living and rural development in Vietnam, and especially parts of Northern Vietnam.

The whole project was initiated in 1970 (Sida, 2012). A relatively small pulp and paper industry was to be built north of the Vietnamese capital Hanoi in the northern part of Vietnam. Bai Bang was a modern and westerly influenced industrial unit unfamiliar to Vietnamese people and the first of its kind being built as part of a development project in a communist country. 25 years later and two billion Swedish kronor (SEK) more expensive than its original budget the project was completed. Nowadays Bai Bang is being managed by Bai Bang Paper Company, BAPACO. Due to new investments the production reached the designed capacity of 55 000 tons in the middle of 1990s. Today the mill produces around 100 000 tonnes of paper (SIFI, 2013). The pulp mill runs at full capacity and contributes 55 000 tonnes of pulp. The remaining pulp constitutes of imported long fibre pine pulp from Indonesia. The total wood supply amounts to about 320 000 solid cubic meters consisting of Acacia and Eucalyptus. Close to 60% of the supply comes from the mill's own forestry organization and the remaining part from farmers and other forest companies.

The project was one of a kind and a big challenge for Sweden (Sida, 2012). Establishing a capital intensive westerly influenced industrial complex in a poor, low skilled, labour intensive, centrally planned economy shattered by the war between USA and Vietnam is not easily accomplished.

As part of the project a forest program was initiated in order to secure a supply of raw material for the pulp and paper industry (Sida, 2012). During the expansion phase in the mid-1980s the supply of raw material from domestic state forest tree plantations could not match the demand of Bai Bang. Over a period of 30 years there has been a transformation of the landscape and the land management. Nowadays much of the raw material is supplied by farmers in the northern part of Vietnam, and especially near Bai Bang (Sandewall *et al*, 2010). Changes in policies, infrastructure and institutions and the market liberalisation are

contributory factors towards the use of cash-crops and forest plantations. This development was most rapid near the industrial market.

1.2. Descriptive analysis

The purpose of the work is to summarise parts of the experiences available regarding the development of farm based forestry in Northern Vietnam and particularly near the pulp and paper mill Bai Bang.

A pile of studies was undertaken by qualitative interviews with Prof. Em., Reidar Persson, Dr. Bo Ohlsson and Research Dr. Mats Sandewall. They have experiences from development work in Vietnam. This overview given by the respondents of the situation in Vietnam, and particularly in Bai Bang, made the descriptive analysis of the material significantly easier.

Information regarding the historical development in Bai Bang and Vietnam has mainly been gathered from reports from the Swedish International Development Cooperation Agency (Sida). Scientific journals and reports have been used to summarise experiences and to draw conclusions.

Information available in reports, articles, web pages and other studies regarding rural development, policies and management and economics i.e. in Vietnam have been gathered and used as references or collected in the chapter *Further reading*. Abstracts from a number of important reports and articles have been gathered in the appendix.

2. The historical development

This chapter will at first describe the decision making and history behind the pulp and paper mill Bai Bang. Secondly the history behind the forest program and raw material supply will be presented. In the third part of this chapter the market development and international competitiveness of Vietnam will be explained and analyzed.

Stated below is an outline of the different project phases in accordance to Otterstedt (2007).

1965-1975: Preparations, studies and negotiations.

1975-1980: Investments began. The forest program focused on organisational structure, planning, planting pine, experimentation and tests.

1980-1990: Bai Bang is being finished, started up and handed over to the Vietnamese. In the forest program there is a further build-up of the organisation, big scale forest plantations, deliveries of raw material to the mill and a gradual liquidation of the of the program in the end of the 1980s.

1986-1991: Plantation and soil conservation project is initiated.

2.1. Building the mill

The idea of cooperating with North Vietnam first came to discussion in Sweden during the second part of the 1960s (Jerve *et al*, 1999). After Mr. Olof Palme's Speech in Gävle in 1965, where he described the horrors of war and referred to Vietnam, the sympathy for the Northern Vietnamese people grew in Sweden. In 1969, the first step of humanitarian assistance and

reconstruction aid was taken when the minister of foreign affairs, Torsten Nilsson, announced a three year program. Political considerations were the primary force behind the cooperation in both Sweden and North Vietnam.

The United States of America did not like the Swedish support of North Vietnam, whom they waged war upon (Jerve *et al*, 1999). Both Sweden and North Vietnam thought that the program would start immediately after the negotiations but when Sweden announced that they would aid North Vietnam it provoked both Washington and the political opposition in Sweden. The Swedish government therefore quickly stated that the program would not be initiated until the war was over, which turned out to be five years later in 1975.

Originally the Swedish goal of the aid-program had been credit transfers or other form of aid giving the management responsibility to North Vietnam (Jerve *et al*, 1999). During the negotiations it turned out that the Vietnamese were interested in project ventures rather than just credit transfers. They showed an interest in Swedish heavy industry. Both sides agreed that it should be in a sector where Sweden had comparative advantage and the choice fell upon a pulp and paper mill. The following years consisted of planning of how, where and when the mill was to be built. The aim of the project was to build a modern, western-inspired, industrial unit suited for pulp and paper production in a fairly undeveloped region of Northern Vietnam and to meet the domestic paper demand and raise the living standards of Vietnam's population (Sida, 2012). The idea, in Sweden, of aiding Vietnam was to help rebuild a country that was being destroyed by Western Countries and their allies (Jerve *et al*, 1999).

The co-operational contract was signed in 1974 after lengthy negotiations. A mutual contract to build a fully integrated pulp and paper mill was signed (Jerve *et al*, 1999). The Project was called Bai Bang. The aim with the mill was to improve and more or less create a brand new pulp and paper production in the northern part of Vietnam (Blower *et al*. 1999).

Bai Bang is located 100 kilometres north of the Vietnamese capitol Hanoi in the earlier province Vinh Phu, nowadays called Phu Tho. Before the pulp and paper mill was built Bai Bang was a tiny village in an almost undeveloped rural environment (Björkman, 1996). Figure 1 shows part of the landscape near Bai Bang in 2003. The choice of having a co-operational project instead of a fully owned project was because Sweden wanted to involve the Vietnamese (Jerve *et al*, 1999). Sweden would support the project with foreign technology that could not be found inside Vietnam, technical expertise, engineers, installation, and education of Vietnamese personnel in logistic, infrastructure and knowledge and in sustainable forestry.



Figure 1: Landscape picture from Doan Hung near Bai Bang taken in 2003. Hills planted with Eucalyptus can be seen in the background (Mats Sandewall).

The Vietnamese would in return supply the project with workers, construction material that could be domestically found, transport and access and supply of raw material for the mill operations. Over time the goal was to give the Vietnamese operational control over the mill. In 1990 there was a withdrawal of Swedish management (Blower *et al*, 1999).

The construction of the mill started in 1977 and went on to 1980. The budget for the project was initially set to 770 million Swedish kronor (SEK) (Blower *et al*. 1999). However, this was adjusted up several times to end at 2.7 billion (SEK) in current prices in the early 1990s. Production started in 1981. However, the mill had problems with raw material supply in the beginning.

During the 1980s the factory had difficulties meeting production targets (Jerve *et al*, 1999). An economic crisis broke out in Vietnam, like in other neighbouring countries, during the late 1970s and continued to the 1980s. The crisis forced the Vietnamese Government to take action and in 1986 economic reforms called “Doi Moi”, which means renovation, was introduced. Since Bai Bang was managed according to western principles, i.e. market oriented ones, the new economic climate was one reason why the factory succeeded in reaching its full capacity during the 1990s.

2.2. Raw material supply and forest resources

One major problem with the project turned out to be supply of raw material; this was already stated during the negotiation period 1970 to 1974 (Jerve *et al*, 1999). The Vietnamese authorities argued that the supply of fibre was no problem (Björkman, 1996). But it was a problem. To ensure that there would be enough raw materials to supply the pulp mill and the integrated coal power plant the Swedes and the Vietnamese agreed to carry out a large-scale field study. This work was given to the Swedish consultancy company Jaakko Pöyry/Interforest. First they inventoried the forests in the area around Bai Bang and the possibilities of transporting the raw material to the mill. Jaakko Pöyry required aerial photos in order to make better estimations of the wood supply. The North Vietnamese did not want to give this information to Jaakko Pöyry due to the ongoing war.

At first, in order for Bai Bang to be competitive in an economic perspective a sufficient supply of raw material at a reasonable cost was of great importance in order to meet the demand for fibre from Bai Bang (Blower *et al*, 1999).

Figure 2 shows the deforestation in Vietnam during the major part of the twentieth century. It shows a raw material base in decline during the major part of the twentieth century.

An increase in population during the 1980s led to an increased competition for land (Björkman, 1996). People mainly migrated to Bai Bang, and the surrounding area because of the work offered at Bai Bang and the surroundings and due to regional policies. People who migrated from southern and coastal parts of Vietnam were not accustomed to farming

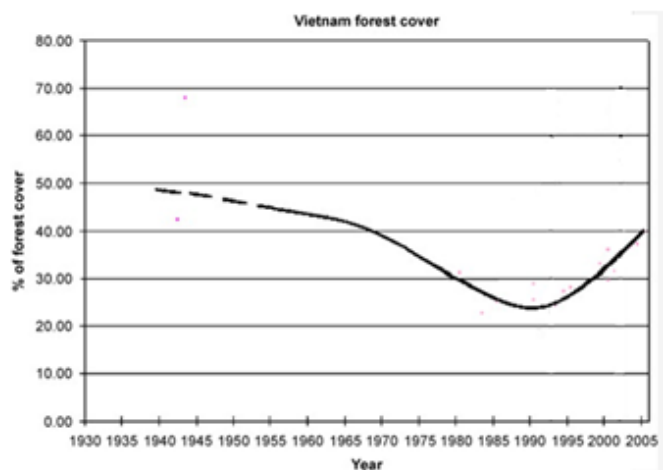


Figure 2: The decrease of national forest cover in Vietnam (Meyfroidt & Lambin 2007).

conditions in Northern Vietnam. The increased population led to an increased demand for fuelwood, food and pasture for animals. Unsustainable agriculture and pasture in the past and in modern time led to desertification in some areas.

Policy legislation has been supportive to forest rehabilitation in Vietnam compared to other countries during the second half of the twentieth century (CIFOR, 2006). Forest rehabilitation has been a priority since the 1950s and objectives have for example been environmental, economic and social, although sometimes these are not compatible. In the 1990s the amount of investments in forest rehabilitation increased.

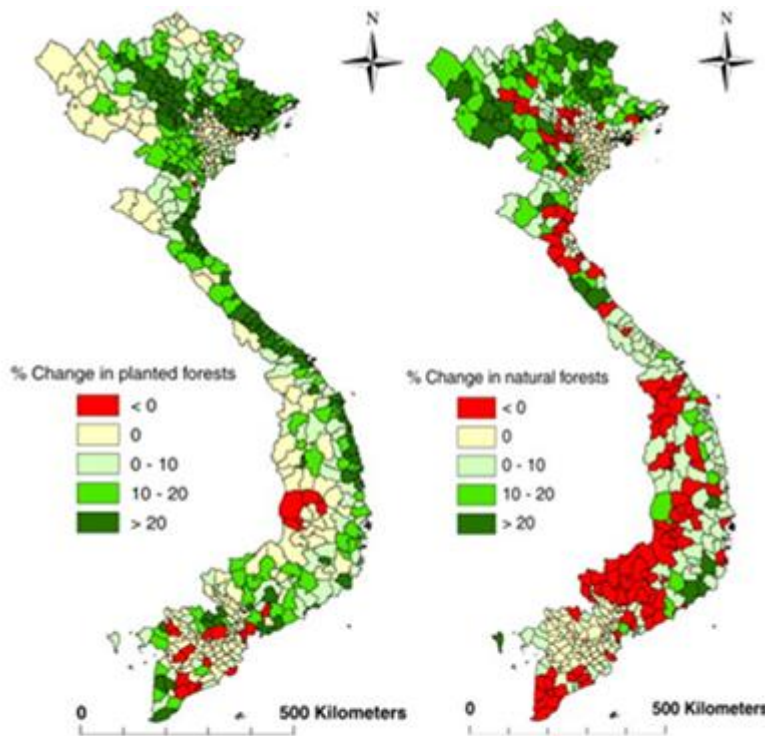


Figure 3: The decrease and increase of natural and planted forest in Vietnam between 1993 and 2002 (Meyfroidt & Lambin 2007)

Land allocation to individual farmer families was piloted in the FAO/SIDA-sponsored Forest-Trees and People Project, which greatly influenced the important new land law of Vietnam 1988, amended 1993, making it possible for farmers to cultivate trees on their own land (Nilsson Axberg 2013, pers. comm., 8 May)

One example of setbacks is plantations established on bad soils during the 1970s and 1980s. *Styrax*, *Mangletia* and *Pinus Caribaea* were the common species used for plantations during this period but gradually it became evident that those species were not the answer to meet the need for fibrous raw material for the Bai Bang mill (SIFI, 2013). A trial carried out with *Eucalyptus* among others became successful and the trees grew nine meters in 18 months (SIFI, 2012). Those fast growing characteristics were demonstrated to the farmers and plants were given to them in order to support farm based forestry.

During the 1990s the Swedes initiated a new program instead of the old forest program (Björkman, 1996). The new program was largely based on the old forest program but focus was changed from securing the raw material supply to support of farmers and local communities.

Much has happened around Bai Bang since the 1980s. Hills around Bai Bang that during the 1980s were bare and desert like are nowadays covered with forest (SIFI, 2012). State enterprises and co-operatives began to establish forest plantations but after the "Doi Moi" reforms in 1986 farmers began to grow trees as crops for Bai Bang. Figure 3 shows the change of natural

In 1998, the so called 5 million hectare project was initiated by the Vietnamese government. The goal was to increase the forest cover with 45% (McElwee, 2008).

Many of the new plantations were planted on deforested areas. Some of them were planted on bare hills used by locals to collect non-forest products like ferns used for fuel in households. Figure 4 shows an example of what these deforested hills looked like during the 1980s.



Figure 4. Hills planted with Eucalyptus near Bai Bang, 1987 (Mats Sandewall).

2.3. Market development and international competitiveness

In 1986 the Vietnamese government conducted a series of reforms and policy measures in order to begin the transformation from a planned economy to a market economy (Nghiep & Quy, 2012). Administered prices of goods and services, acceptance of non-socialist forms of business management such as joint-ventures in the industrial sector, banking reforms and individual farm enterprises are just examples of measures taken. "Doi Moi" had an enormous impact on the economic development of Vietnam.

Vietnam entered the Asian free trade agreement, ASEAN, in 1995 (Karsenty, 2006). Before they entered the tariffs on forestry products were about 30% to 50%. The industries were therefore well protected against international competition. With the entry in ASEAN, Vietnam was forced to over time lower the tariffs to 5%.

Different stages of the development of different Countries and their economies could be described in accordance to Schwab (2012). Three stages are defined: Factor-driven, Efficiency-driven and Innovation-driven. Vietnam is an example of a Factor-driven economy and they are usually characterised by using factors like low-cost labour and unprocessed natural resources as a basis for competing on the global market. A Factor-driven economy is highly sensitive to fluctuations in commodity prices and exchange rate fluctuations.

In order to become Efficiency-driven an economy should ensure and enhance higher education systems, a functioning and well developed market, technological readiness and a well functioning system for labour and goods. The advantage comes from producing more advanced products and services more efficiently. Thailand is an example of an Efficiency-driven economy. In order to become Innovation-driven an economy will have to produce innovative products using advanced methods. Sweden is a good example of an Innovation-driven economy. Figure 5 show that Vietnam is a factor-driven economy (Schwab, 2012).

The Global Competitiveness Index

	Rank (out of 144)	Score (1-7)
GCI 2012-2013	75	4.1
GCI 2011-2012 (out of 142)	65	4.2
GCI 2010-2011 (out of 139)	59	4.3
Basic requirements (60.0%)	91	4.2
Institutions	89	3.6
Infrastructure	95	3.3
Macroeconomic environment	106	4.2
Health and primary education	64	5.8
Efficiency enhancers (35.0%)	71	4.0
Higher education and training	96	3.7
Goods market efficiency	91	4.1
Labor market efficiency	51	4.5
Financial market development	88	3.9
Technological readiness	98	3.3
Market size	32	4.6
Innovation and sophistication factors (5.0%)	90	3.3
Business sophistication	100	3.6
Innovation	81	3.1

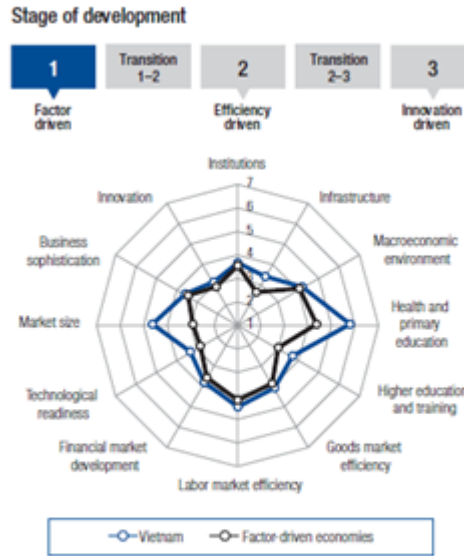


Figure 5: Global Competitiveness Index and Stage Development of Vietnam (Schwab, 2012).

What stage the economy is in is determined by different indexes (Schwab, 2012). Presented in figure 6 are different indexes for Vietnam, Sweden and other ASEAN-countries. Every index is of importance for what stage in the economy is in but they are of different importance depending on how developed the economy is. If the Vietnamese economy wants to be more competitive, the best way of getting there is not the same as for Sweden. This is due to the difference in how well developed the countries' economies are.

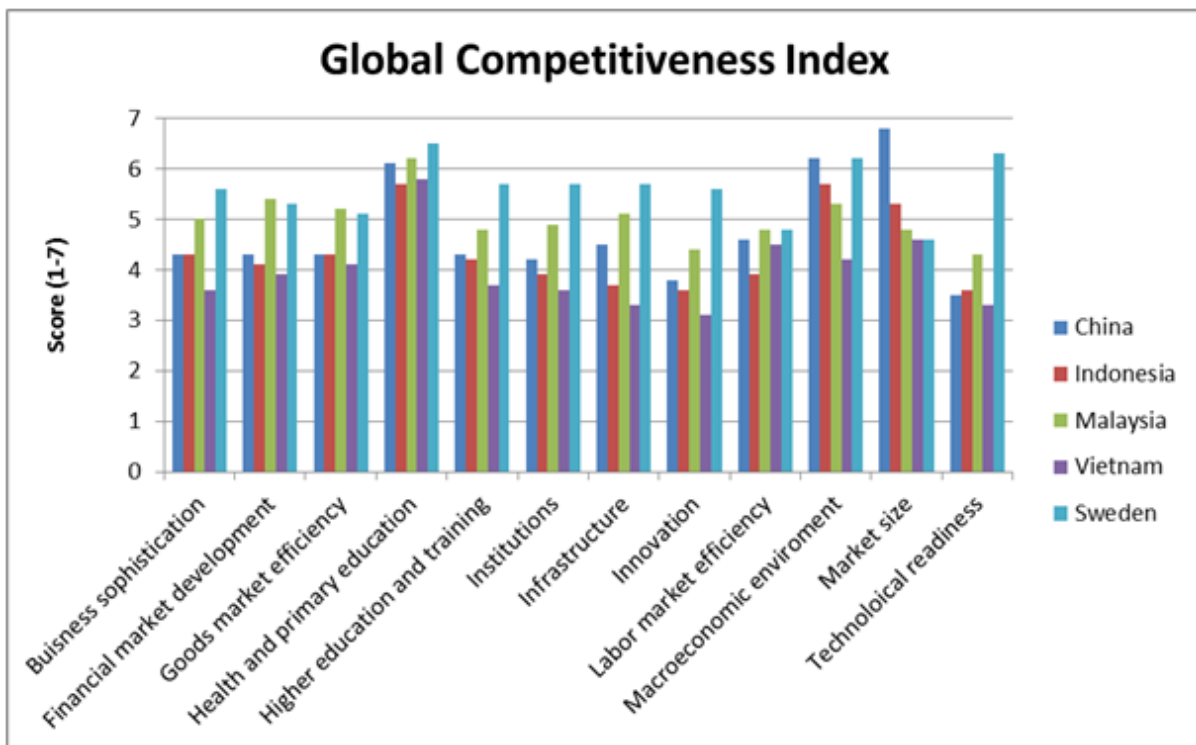


Figure 6: Illustration of global competitiveness indexes between Sweden, China, Indonesia, Malaysia and Vietnam. Illustrated by Marcus Hallenberg, originating from (Schwab, 2012).

As shown in Figure 5 Vietnam has much to gain when it comes to competing with other forest countries in the region. Vietnam lags behind in almost all areas measured in these indexes. However, it is worth noting that Vietnam is not last in every aspect. When it comes to health and primary education they are better than Indonesia and when it comes to labour market efficiency they are equal to China and better than Indonesia. One index critical for the Vietnamese development is “infrastructure”. It is critical for ensuring a well-functioning economy. It connects the domestic market and has a major impact on economic growth and reduction of poverty.

To become more competitive as a country Vietnam will need:

1. Public and private institutions that are well-functioning
2. A well-developed infrastructure
3. A workforce that is healthy and has a basic education-level at least

3. Lessons from Bai Bang, successes and setbacks

Several underlying elements are responsible for the development of farm based forestry plantations in Vietnam (Ohlsson, 2009). The creation of a market, supportive and dynamic policies, functional institutions and legal framework and tenure systems are important factors (Nawir *et al*, 2007, Nylund & Ingemarson, 2007, Ohlsson, 2009, Sandewall *et al*, 2010,). Parallels can be drawn to the historical experiences from Swedish forest tenure. Exploitations of small stake holders were commonplace in the first half of the twentieth century and tenure systems and legal framework were weak. Once the institutions were functioning, legal framework were strengthened and tenure systems adopted the Swedish farmers began to employ modern management methods (Nylund & Ingemarson, 2007). Research has found that a management approached base at the household level is a better way to reach socio-economic and environmental benefits than other approaches (IDRC, 2000). Further development within the Vietnamese forestry sector will require more choice and autonomy at household- and community level (Phuong, 2000).

3.1. Successes and setbacks

Vietnam underwent a transition from a domestically decrease of forest cover during the major part of the twentieth-century to an increase of the national forest cover in 1992 (Tachibana *et al*, 2001, Meyfroidt & Lambin 2007). The reforestation has continued since. Meyfroidt and Lambin (2007) suggest that the increase for agricultural out- and inputs contributed to the reforestation. The increased demand, in the long term, raised agricultural productivity and the concentration of agriculture on the most suitable land (Tachibana *et al*, 2001). When food supply increased the incitement of using lesser suitable agricultural land for cash crops and forest in order the make money will become more prioritised among farmers. Maslow (1943) stated five basic needs arranged in a hierarchy and when the prior is met the next can be satisfied. Being able to feed is a basic need and when you have the ability to buy food throughout the year doing something more profitable with your money seems reasonable. In 1989, after three decades of being a net importer of rice and one year after the start of the implementation of the new land law, Vietnam became a net exporter of rice and is nowadays one of the top rice exporters in the world (Ngoc Que & Goletti, 2001).

The farmers are not able to harvest trees in a plantation as fast as regular commercial crops. This means that the annual payments received upon annual harvests is postponed and accumulated into the future and the need for external financing increases. Therefore, to increase the incitement, it is important to establish a well functioning banking system in order to finance plantations. According to Sikor (2011) there are benefits using a loan-based approach to provide external finance possibilities to households managing tree plantations. Figure 7 shows a farmer and his son in their own managed Eucalyptus plantation.



Figure 7: Farmer and son in their own Eucalyptus plantation. Taken in Doan Hung, near Bai Bang in 2006 (Mats Sandewall).

According to Tan (2011) there is a difference in the wood flow market complexity in the provinces Phu Tho near Bai Bang and Binh Dinh in Southern Vietnam. The wood flow market from small holders is more complex in Phu Tho compared to Binh Dinh (Tan, 2011). More intermediaries and a poor access to price information are more typical to the province near Bai Bang. The farm gate price is also much lower near Bai Bang than in Binh Dinh. The result indicates that there is room for improving the price for farmers in Phu Tho. In 2010 the farmers, in studies at three locations in Northern Vietnam, got about 50% of the mill gate price (Sandewall *et al*, 2010). This means that there are possibilities for farmers to organise themselves and negotiate prices in cooperatives and cut intermediaries in order to increase their farm gate prices. One threat to a further development might be the high amount of intermediaries near Bai Bang. They might decrease the incitement for further reforestation among farmers.

3.2. Future Challenges

Comparing Vietnam's competitiveness to adjacent and adjoining countries like China, Malaysia and Indonesia it is obvious that Vietnam lags behind. As seen in the report by Schwab (2012), mentioned earlier, Vietnam has lower indexes in key areas such as Business Sophistication, Higher Education and Training, Infrastructure, Innovation, Macroeconomic Environment and in Institutions. In order to be competitive in the long run Vietnam will need to develop and enhance its market, higher education, technological readiness and a well functioning system for labour and goods. The Vietnamese advantage will need to come from producing more advanced products and services more efficiently.

Since the forest plantations are dependent of a functioning market, lower prices might threaten the future domestic production. If the price for raw material to the pulp and paper industry is too low farmers will choose other crops that are more profitable. Old equipment, low quality paper and medium scale producers in Vietnam will face future problems staying profitable on the international market (Karsenty, 2006). One way might be shifting the direction to chip or bio fuel production in the future.

Another future problem with further reforestation of Vietnam might be social, environmental and economic impacts. Especially poor and native people, who are dependent of non-forest products, might be affected (McElwee, 2008).

3.3. Drivers for restoration

Bai Bang created a demand of fibre which worked as a driving force behind the reforestation of Northern Vietnam, especially in the provinces around Bai Bang. The success of Bai Bang is important in a global perspective because the farmers took initiative and combined forest plantations with an agriculture system capable of both feeding the population and producing raw material for pulp, paper, chips and perhaps future bio fuel. When land is a scarce resource globally there is a need to increase productivity on land already in cultivation in order to meet the demand of food, fibre and fuel. Bai Bang might teach us a lesson when it comes to support developing countries, but also industrialised ones, to implement changes in rural activities and increased efficiency in land use. According to analysis the following drivers have been identified as important for the reforestation of Vietnam:

1. Creating a long term functioning market for fibre, e.g. through reforming the market into a market-orientated direction and create a well-functioning banking system.
2. Strengthening the farmers' property rights through changes in policies and laws.
3. Create an interest among farmers, e.g. illustrating the benefits of different fast growing species, as well as other options like cash crops. The combination of agriculture and forestry at some locations are a good example of the benefits of agroforestry.
4. Give the farmers freedom to choose the direction of their businesses and give them responsibility for the raw material supply.
5. An increase of food security throughout Vietnam. Food security is necessary in order to create an interest for other crops since food has a higher priority than money.
6. The farmers should rely on the institutions and the institutions should give the farmers a certain degree of freedom.
7. The Vietnamese confidence in the project and the local involvement has been important for the progress made in farm based forestry in northern Vietnam.

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5. Further Reading

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6. Appendix

Several reports regarding socio-economic development, history, financing, tree plantations, management, policy, conflict and politics regarding rural development in Vietnam and especially around Bai Bang is gathered in this chapter. The main objective is to create a base on which any reader easily can navigate into different aspects of the unique rural development around Bai Bang in Northern Vietnam.

Some of the Abstracts gathered here are used in the report. Others are referred in the chapter *Further reading*. Register of Abstracts are stated below alphabetically by first or main author. Two of the abstracts in the register below, marked with (*), did not have any abstract attached to the original publication. Therefore the authors' conclusions have been used as an abstract in order to summarise the original paper.

Abstracts:

1. Forest Rehabilitation in Vietnam Histories, realities and future*.
2. Afforestation and forestry land allocation in Northern Vietnam: Analyzing the gap between policy intentions and outcomes.
3. Co-operation and contestation: farmer-state relations in agricultural transformation, An Giang Province, Vietnam.
4. The Challenge of Reform in Indochina.
5. Reforesting "Bare Hills" in Vietnam: Social and Environmental Consequences of the 5 Million Hectare Reforestation Program.
6. The causes of the reforestation in Vietnam.
7. Stimulating smallholder tree planting – lessons from Africa and Asia.
8. Peoples's Participation in Forest Management in Vietnam*.
9. Farmers and Forest Land Use in Lao PDR and Vietnam.
10. Government Plans and Farmers Intentions: A Study On Forest Land Use Planning In Vietnam.
11. The expansion of farm-based plantation forestry in Vietnam.
12. Agricultural Policy and Land Use Changes in a Black Thai Commune of Northern Vietnam, 1952–1997.
13. Conflicting Concepts: Contested Land Relations in North-western Vietnam.
14. The allocation of forestry land in Vietnam: did it cause the expansion of forests in the Northwest?
15. Financing household tree plantations in Vietnam.
16. Territorialisation and the Politics of Highland Landscapes in Vietnam: Negotiating Property Relations in Policy, Meaning and Practice.
17. Agricultural Intensification versus Extensification: A Case Study of Deforestation in the Northern-Hill Region of Vietnam.

Abstracts

Forest Rehabilitation in Vietnam Histories, realities and future*

CIFOR (Center for International Forestry Research), Jong, W., Sam, D-D. & Hung, T-W. (2006) *Forest rehabilitation in Vietnam: histories, realities and future.*

The following key lessons can be synthesised from the success and shortcomings of Vietnam's forest rehabilitation: Forest rehabilitation should be incorporated in projects and programs at the national level and implemented through projects at the local level with well-defined goals. The more detailed the project objectives and plans of operations are, the more the project achievements will reflect the goals and objectives. The procedure of project appraisal, management and monitoring of project operation is essential to ensure the success of the projects. At present, because of inadequate appraisal, the numbers of projects that focus on protection and special-use forests have exceeded the tentative plan until 2010. One key defining factor of success for the 5MHRP is adequate but relevant coordination's from the central to local level, all the way to households and communities. Clear and detailed benefits for household and articulated participation will vastly enhance project results. Clarifying land ownership conditions for the party that will hold key responsibility for the rehabilitation, and adequately addressing technical requirements, will also enhance project results. The implementation of forest rehabilitation projects should be integrated with other projects that aim to improve the socio-economic conditions of the local populations. Forest rehabilitation projects should be combined with other activities to ensure that the major goals of the projects are met.

Afforestation and forestry land allocation in Northern Vietnam: Analyzing the gap between policy intentions and outcomes

Clement, F. & Amezcaga, J-M. (2009). *Afforestation and forestry land allocation in Northern Vietnam: Analysing the gap between policy intentions and outcomes.* Science Direct, 26(2): 458-470.

Many tropical countries have recently implemented similar forest policies including large-scale afforestation programmes and the devolution of land-use rights. Their success in enhancing livelihoods and contributing to improved environmental services has been widely questioned. This paper discusses the impacts of state afforestation efforts and forestry land allocation on farmers' land-use decisions in Northern Vietnam. It links policy outcomes with factors located beyond the local level by analysing the decision-making process at the policy implementation stage. Our study suggests that the current national afforestation campaign has not successfully involved households in the forestry sector and that forestry land allocation to households has often disrupted existing land-use systems with little impact on afforestation. These discrepancies between policy intentions and outcomes are partly linked to the relative freedom provinces have to interpret and adapt policies during the implementation stage. In this respect, the political and economic context has played a significant role in providing particular financial and bureaucratic incentives to the former State Forest Enterprises and to civil servants. However, we argue that these actors have been allowed or even encouraged to take advantage of these incentives by national policy-makers thanks to: (1) the lack of clarity or the poor adequacy of the policies designed at the central level, and (2) the blurred character of prevailing national discourses promoting afforestation and community-based forest management. We recommend that national policy-makers allow flexibility in policy

implementation but develop mechanisms of accountability and control between the provincial and the central authorities.

Co-operation and contestation: farmer-state relations in agricultural transformation, An Giang Province, Vietnam

Howie, C-A. (2011). *Co-operation and contestation: farmer-state relations in agricultural transformation, An Giang Province, Vietnam*. Centre for Developing Areas Research (CEDAR), Department of Geography, Royal Holloway, University of London.

This thesis analyses farmer-state and farmer-farmer relations in the Mekong Delta, Vietnam, focusing on agricultural transformations in An Giang Province. It does so at three levels: first, at the largest scale, farmer-state relations are explored through the building of common dikes of different heights; second, farmer-farmer relations are examined through farmers' management of flood water within common August dikes; and third, at the smallest scale, the scope for inter household diversification in the face of common environmental and economic constraints. Case study fieldwork took place between 2002 and 2007 in four communes using a mixture of inductive and deductive methods. Political ecology at the micro-level provides the overarching conceptual framework, and co-operative water management is analysed using Olson's (1965) and Ostrom's (1990) 'collective action' and 'common pool resources' frameworks. The research aims to contribute to a better understanding of farmer-state relations in the South of Vietnam. Drawing on Kerkvliet's (2005) models of farmer-state relations, an additional model, advocacy relations, existed in the study area, although dialogic and a form of dominant state relations also existed. Since a period of national food insecurity in the 1980s, related to the failure of state-initiated co-operatives here, farmers retain and exercise leverage against the state by, for example, resisting proposals to raise the height of the dikes. Within common August dikes, farmers act collectively in 'pumping clubs' to manage flood water. August dikes raise production, but reduce the scope for individual decision making. Common high dikes allow farmers to act more individualistically and this accentuates differences in success between households. Paradoxically however, high dikes have also enabled the state to gain control of water management, although it is not clear if this has been done in order to regain political control or to protect the poor and the landless.

The Challenge of Reform in Indochina

Ljunggren, B (red.) (1993). *The challenge of reform in Indochina*. Cambridge, Mass.: Harvard Institute for International Development, Harvard Univ.

Since the mid-1980s, Vietnam, Laos, and Cambodia have been engaged in increasingly comprehensive market economic reforms: Laos with considerable support from the International Monetary Fund and the World Bank; Vietnam while still facing a US embargo; and Cambodia with the ever-present Khmer Rouge threatening to derail the fragile peace accord reached in Paris in the Fall of 1991. When the reforms began, all three countries were close allies of the Soviet Union. Today, Vietnam and Laos are linked as observers to the Association of Southeast Asian Nations (ASEAN), originally created by its neighbours in order to contain communism. The contributors to this volume - many of them economists - have analysed this transformation from various perspectives, including foreign policy, historical, gender, macroeconomic, political and social. Although Vietnam is given primary emphasis, the authors trace the experiences of all three countries from the end of the Second Indochina War in 1975 to recent times. Throughout, their focus is on policy issues and the human dimension.

Reforestation “Bare Hills” in Vietnam: Social and Environmental Consequences of the 5 Million Hectare Reforestation Program

McElwee, P. (2008). *Reforestation “Bare Hills” in Vietnam*. *AMBIO: A Journal of the Human Environment* 38(6):325-333.

In recent years, forestry has been strongly promoted by the government of the Socialist Republic of Vietnam through large-scale projects to rehabilitate and reforest millions of hectares of land. One project to reforest 5 million hectares has received hundreds of millions of US dollars for implementation. Yet based on a case study in one area of Northern Vietnam, this project appears to have had a number of unforeseen consequences. Large areas of land classified as “bare hills” have been targeted for reforestation, despite the fact that these lands already harbor a number of species that were used by local communities. The bare hills were especially economically important to poor households and to women who collected a variety of nontimber forest products there. Because the reforestation project focused most efforts on establishing new plantations rather than supporting natural regeneration, diverse sources of nontimber forest products were being replaced with mono crop exotic tree plantations. A strong inequity in the allocation of private lands for reforestation has characterised the greening projects to date, and this may have continuing unwelcome social, environmental, and economic impacts into the future, particularly for the poor.

The causes of the reforestation in Vietnam

Meyfroidt, P. & Lambin E-F. (2007) *The causes of reforestation in Vietnam*. Department of geography, University of Louvain, Belgium.

We test an emerging theory of the forest transition using the case of Vietnam. In the early 1990s, decollectivisation of agriculture, allocation of forestry land to households, and the development of market networks transformed land use in the mountains of Vietnam, leading to an increase in forest area. We used census and geographic data covering the whole country at a fine level of aggregation to build a spatial lag regression model of reforestation. We separated natural forest regrowth from the increase in plantation forests. The forest transition theory distinguishes between the forest scarcity and economic development paths. Our study suggests that the forest scarcity path was in part at work in Vietnam: new policies allocating forestry land to households, local scarcity of forest products, and development of remote demand for timber contributed to forest cover increases. The evidence regarding the economic development path are more ambiguous, as there was no depopulation or agricultural decline in marginal regions. We propose a third forest transition path that better corresponds to Vietnam's situation: a smallholder agricultural intensification path. In marginal regions, land scarcity associated with population growth, land degradation, and political restrictions led to, on one hand, a decline in cultivation on hillsides followed by reforestation and, on the other hand, an increase in labour inputs on the plots with the highest agro-ecological potential. The development of markets for agricultural inputs and outputs did also contribute to reforestation by raising agricultural productivity in mountain paddies and maize fields. This reinforced the concentration of agriculture on the most suitable land.

Stimulating smallholder tree planting – lessons from Africa and Asia

Nawir, A-A., Kassa, H., Sandewall, M., Dore, D., Campbell, B., Ohlsson, B. & Bekele, M. (2007). *Stimulating smallholder tree planting – lessons from Africa and Asia*. *Unasylva*, 58(228): 53-57.

From 1990 to 2005 the area of tropical forest plantations increased from 69 million to 93 million hectares (FAO, 2006). Although plantations account for 11 percent of the total forest area in Asia and the Pacific and only 2 percent in Africa, the two regions share a trend towards increased involvement of the private sector and small-scale producers in plantation establishment, which previously was primarily government controlled (Persson, 2003; Sam and Trung, 2001). Small-scale forest plantations provide a range of benefits to rural communities, including fuelwood, fodder and wood for building and everyday uses, as well as environmental and amenity benefits. Yet small-scale producers and poor households still reap only a small portion of the commercial benefits from plantation-derived wood and processed wood products, even though plantations in developing countries produce billions of dollars worth of these products annually. This article describes some different schemes through which smallholders participate in establishing and managing productive plantations. These reflect a continuum from management by tree growers themselves to private corporate initiatives, with government-initiated collaborative management in between. For each of these schemes, the article identifies key incentives – defined as “payments or services that increase the comparative advantage of forest plantations over other land use options and thus stimulate investments in plantation establishment and management” (Enters, Durst and Brown, 2003) – that can promote smallholder involvement in tree planting, although the strategies of course vary according to the country and the local conditions. The article highlights the importance of supportive policies and legislation, and clear, secure forest land tenure and management rights as enabling conditions for sustainable smallholder tree growing.

People's Participation in Forest Management in Vietnam*

Phuong, X-P. (2000). *People's Participation in Forest Management in Vietnam*. Section 2, fourth article in *Decentralization and Devolution of Forest Management in Asia and the Pacific*.

Since introduction of *Doi Moi* in 1986, the Government of Viet Nam has actively sought to transform the forestry sector through the forestland allocation process. The process is still evolving, but it is evident that if greater success it to be achieved more choice and autonomy will need to be given to households and communities who are responsible for protecting and managing forestland in Viet Nam.

Farmers and Forest Land Use in Lao PDR and Vietnam

Ohlsson, B. (2009). *Farmers and Forest Land Use in Lao PDR and Vietnam*. Department of Forest Resource Management, SLU, 901 83 Umeå.

People's use of the forest land for shifting cultivation has over the last 50 years altered the upland landscape in Laos and Vietnam. The objective of the thesis was to develop interdisciplinary approaches and methods to document, analyse and understand the use of forest land over this time. A second objective was to relate land use trends to local, national and global developments. Specific objectives were to explain and understand the observed status and changes of forest land use and the society. An interdisciplinary approach and methodology was used, including the Holling's adaptive cycle. In different case studies the forest land use was documented and analysed, using a mix of social and natural science methods. Policy, strategy and legislation has been studied and related to the actual

development. In two of those studies, a stable system evolved, to be challenged around 1990, due to the emergence of market reforms. In the third case study, in Vietnam, the transformation of natural forest and vegetation to private, farm based plantation forestry, via shifting cultivation, over a thirty year period, was documented and analysed. In a fourth study, the development of plantation forestry in Laos was analysed in the context of globalization. In both countries, a substantial amount of the forest land has been used for food production. In spite of severe internal and external influences, the communities have managed to sustain themselves without any significant livelihood changes. Through the penetration of globalisation, in terms of land privatisation, emerging market economy and improved communications, the villages were exposed to a new situation which could not be addressed by their traditional livelihood. In the Lao study, the farmers responded in different ways, from embracing the market economy to expanding already known and tested production or by avoidance. The case study on farm based plantation forestry in an uptake area of a major forest industry in Vietnam, indicates that the reasons for this development was the emergence of a market; supportive and dynamic policies, institutions and legal framework and tenure systems, and most important, the existence of professional farmers.

Government Plans and Farmers Intentions: A Study On Forest Land Use Planning In Vietnam

Ohlsson, B., Sandewall, M., Sandewall, K. & Phon N-H. (2005). *Government Plans ad Farmers Intensions: A Study On forest Land Use Planning In Vietnam*. AMBIO: A Journal of the Human Environment 34(3):248-255.

In 1998, the Vietnamese National Assembly approved a Five Million Hectare Reforestation Program, (5MHRP) 1998-2010. It would increase forest cover by some 45%, use barren hills, produce wood, and generate socioeconomic development. It would, however, also put demands on Vietnamese planning. Experiences from a former development project and two case studies from a commune and village are used as a basis for analysing the planning system. The study describes the objectives and strategies of government and farmers in one commune and one village and analyses how planning data influence scenarios on future development. Official planning data do not reflect reality but are derived through negotiations. In the commune and village studied, it would be difficult for the 5MHRP to materialise, as most of the forest land, officially not yet used, is actually used for food production. The approach and method used by the study offers alternatives to current planning practices.

The expansion of farm-based plantation forestry in Vietnam

Sandewall, M., Ohlsson, B., Sandewall, K. & Le Sy Viet, (2010). *The expansion of farm-based plantation forestry in Vietnam*. AMBIO: A Journal of the Human Enviroment 39(8): 567-579.

This study targets plantation forestry by farm households (small holders), which is increasing globally and most rapidly in China and Vietnam. By use of an interdisciplinary approach on three study sites in Vietnam, we examined the trends in farmers' tree planting over time, the various pre-requisites for farm-based plantation forestry and its impact on rural people's livelihood strategies, socioeconomic status, income and security. The study sites are located various distances from the biggest pulp and paper mill, Bai Bang, in the region. The findings indicated a change from subsistence to cash-based household economy, diversification of farmer's incomes and a transformation of the landscape from mainly natural forests, via deforestation and shifting cultivation, to a landscape dominated by farm-based plantations.

The trend of transformation, over a period of some 30 years, towards cash crops and forestry was induced by a combination of policy, market, institutional, infrastructural and other conditions and the existence of professional farming communities, and was most rapid close to the industrial market.

Agricultural Policy and Land Use Changes in a Black Thai Commune of Northern Vietnam, 1952–1997

Sikor, T. & Truong, D-M. (2002). *Agricultural Policy and Land Use Changes in a black Thai Commune of Northern Vietnam, 1952-1997*. Mountain Research and Development 22(3): 248-255.

Vietnamese agricultural policy has changed radically during the past 5 decades. Decollectivisation in the 1980s and 1990s followed 2 decades of collective agriculture. This article examines the effects of agricultural policy on land use. It reports the results of remote image interpretation and socioeconomic field study in a Black Thai commune in Vietnam's Northern mountains. It suggests that the landscape in the commune has been highly dynamic and that this dynamism was partly the result of the agricultural policy. Collectivization and decollectivisation affected land use, but their influence was mediated by other factors, primarily changing technology and markets. In addition, the relationship between national policy and local land use is complicated by 2 factors: (1) changes in local institutions may predate national reforms, and (2) implementation of national policy and the resulting local institutions may differ from place to place.

Conflicting Concepts: Contested Land Relations in North-western Vietnam

Sikor T. (2004). *Conflicting Concepts: Contested Land Relations in North-western Vietnam*. *Conservat Soc* 2004;2:75-95

In villages of North-western Vietnam land allocation provided a window in which different conceptions of land relations came to light. Villagers resisted the implementation of key elements of the new land legislation, though the new law purported to extend people's control. Their resistance manifested a fundamental disjuncture between the exclusive and territorial concept of land rights promoted in the new land law and people's lived land relations. They refused to give up the substance of land relations that had proven useful before collectivisation, under collective agriculture and again in the initial years of decollectivisation. People's reactions highlight how post-socialist land reforms provoke their own forms of resistance. Villagers negotiate the reforms in conflicts over resources and authority as well as over the very concept of landed property. This article examines the nature of these conflicts, explores their linkages with socialist and post-socialist land legislation, and relates them to the larger literature on post-socialist property relations.

The allocation of forestry land in Vietnam: did it cause the expansion of forests in the Northwest?

Sikor, T. (2001). *The allocation of forestry land in Vietnam: did it cause the expansion of forests in the Northwest?* *Forest Policy and Economics* 2 (1): 1 – 11

Forests expanded rapidly in Northwestern Vietnam in the 1990s. Forest expansion coincided with a new forest policy that mandated the devolution of forest management authority. A cornerstone of the new policy was the allocation of use rights for forestry land and trees to rural households. This paper examines to what extent the new forest policy contributed to the

observed forest expansion. The findings of three village studies suggest that the new forest policy had minor effects on actual property rights, as villagers resisted its implementation. Instead, forests expanded, mainly due to the liberalisation of agricultural output markets and availability of new technology. Changes in markets and technology motivated farmers to intensify crop production, reducing agricultural pressure on land. The research findings suggest the potential of market-based instruments and technology policy to facilitate forest regeneration. They also demonstrate the benefits of in-depth village studies for forest policy analysis, as it provides an integrated framework for assessing the relative effects of political, economic and technological changes on forests.

Financing household tree plantations in Vietnam

Sikor, T. (2011) *Financing household tree plantations in Vietnam: current programs and future options*. Working Paper 69. CIFOR, Bogor, Indonesia

Access to external finance critically influences farm households' ability to establish and manage commercial tree plantations in Vietnam, as it does elsewhere. The Vietnamese government has recognised the importance of household tree plantations and, in particular, the benefits of giving households access to external finance. Not only has the government transferred around a quarter of Vietnam's forestland to households, but it also offers them exceptional access to financial support through targeted programmes and the state-owned banking system. This report analyses the mechanisms used in 5 programmes that currently provide finance to households. It compares the 5 mechanisms against 7 criteria: availability; financial and operational sustainability; leakage to other productive activities; household access; cost to households; risk to households; and match with households' finance requirements. In addition, it considers the finance requirements of 3 types of households, differentiated according to their investment rationales. The report finds that Vietnam's policymakers face critical choices when they design finance programmes to support household tree plantations. The most critical trade-offs are between financial sustainability and the provision of accessible, affordable and low-risk support, between wide geographical coverage and match with farm households' finance requirements, and between leakage and financial sustainability. The report highlights the benefits of adopting a loan-based approach to providing external finance to households managing commercial tree plantations in Vietnam. It also identifies specific conditions for plantation loans for different types of households and for the transition towards long-rotation plantations.

Territorialisation and the Politics of Highland Landscapes in Vietnam: Negotiating Property Relations in Policy, Meaning and Practice

Sowerwine J-C. (2004). *Territorialisation and the Politics of Highland Landscapes in Vietnam: Negotiating Property Relations in Policy, Meaning and Practice*. *Conservat Soc*, 2(1): 97-136.

This article examines the making of post-socialist forest property relations in highland Vietnam in policy, meaning and practice, and the resultant implications for patterns of resource use, local power relations, and forest biodiversity and cover. It utilises the framework of political ecology to explore how macro-level institutions and ideologies intersect with local understandings and practices to regulate resource access, use and control. Specifically, this article examines changes in farmers' de facto and de jure rights in land and land-based capital in response to institutional and market changes, and the micro-processes through which those relations are constituted and contested. It explores how forest lands are imagined by the state and made legible through various mechanisms of surveying, classifying,

mapping and registering forest land parcels, a set of processes defined as territorialisation. It extends the analysis beyond the nation-state, demonstrating the role of international environmental capital in facilitating those processes. State territoriality, however, has not resulted in the uniform transformation of forest property arrangements into private control. Rather, existing social structures, land use practices and social(ist) networks may in fact alter or subvert forestry reforms in ways not envisaged by the state. This article explores the particularities and unintended consequences of forest reforms through a comparison of two highland Dao villages in Northern Vietnam at the turn of the millennium.

Agricultural Intensification versus Extensification: A Case Study of Deforestation in the Northern-Hill Region of Vietnam

Tachibana, T., Nguyen, T-M. & Otsuka, K. (2001). *Agricultural Intensification versus Extensification: A Case Study of Deforestation in the Northern-Hill Region of Vietnam*. *Journal of Environmental Economics and Management*. 41(1): 44-69.

Northern Vietnam has experienced significant deforestation due to the expansion of shifting cultivation fields. Since the late 1980s, with the introduction of individualised land rights, such agricultural “extensification” was followed by the agricultural intensification and regeneration of forests. We present a dynamic model of agricultural intensification versus extensification and test its implications using commune-level data in 1978, 1987, and 1994. The results suggest that the choice between intensification and extensification is relevant in hilly areas with limited flat land and sloped upland, and that strengthened land rights particularly that on upland, tend to deter deforestation.