

How Lao Forest Industry Is Managed? Loopholes in Governance and In Practice

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Abstract

Continuation of stress on the Lao forests has been widely accepted among government officials related and international donors. Despite array of their efforts to address the issue of national forest degradation for three decades, It remains wide spread. This article investigates the effect of the chronicle change of the forest policy on the actual management of the Lao forest sector. It reviews reviewing literature attempting to historically link forest policies and their outcome in the actual practice. It then analyses the effects of the current forest policy by comparing regulatory framework for forestry sector with actual implementation phase in relation to timber commodity chain. The result prove that even though the Lao forest policies are vigorously enforced, Laos will still face difficulties in managing its forests in a sustainable manner.

Keywords: Governance, Sustainability, Forest Policy, Lao

1. Introduction

Laotian economy depends heavily on its existing natural forest resources. As one of the fastest growing sectors of the overall economy, the forest sector has provided vital source of material, jobs and financing for both public and private sectors. However, this sector has been claimed as one of the major causes of rapid deforestation from overharvesting of natural forests. As the result, the Lao government has changed forest governance structure from one ministry's governance to multi ministries' governance of forest sector since the early 2000s.

The main goal of this change is not only to curb the ratio of log harvesting from natural forest but also to maintain incomes from this source by providing incentives to timber companies to add value to the timbers prior to export. Despite a few year implementation of this new governance regime, many difficulties in forest sector management have shown leading to a question whether this governance scheme will stimulate or undermine sustainable forestry. This article investigates the effect of the chronicle change of the forest policy on the actual management of the Lao forest sector.

The study initiate with reviewing literature attempting to historically link forest policies and their outcome in the actual practice. The study then analyses the effects of the current forest policy by comparing regulatory framework for forestry sector with actual implementation phase in relation to timber commodity chain. This allows speculations and conclusions to be drawn on why current forest sector governance undermines sustainable forestry.

2. Evolution of the forest industry policy in Laos

The forest industry policy of Laos has been highly influenced by the changes of the national social and economic policies that have occurred in the country since its liberation in 1975. In this review, the evolution of the forest industry policy falls in to three consecutive periods:

2.1 Seeing forests as sources of green gold or 'Kham kieow' (between 1975 and 1989)

After its epic fight for liberation for over three decades, in 1975 the Lao People's Revolutionary Party was officially declared as the only ruling party of Laos. The party formed and authorized the Lao Government to administer and reconstruct the state. However, the Government found only a few options for national revenue generation to serve this purpose. The main one was forest resources; the rich resources that the government saw as Kham kieow. It was believed that the harvests would never cause a decrease in these resources.

For this reason, between 1975 and 1989, the Government set three main objectives for the forestry sector: 1) to harvest forest resources for the welfare improvement and development of the population and to create national capital; 2) to ensure rehabilitation of the forest after harvesting; and 3) to utilize the log revenues to invest in the agricultural and forest industries (Kitamura 2003).

In pursuit of these objectives, the Government established 9 state-owned enterprises (MoAF 2005). These enterprises functioned as logging companies, which were technically and financially supported by the Swedish International Development Agency (SIDA), the Asian Development Bank (ADB), USSR, and Vietnam (Daoroung 1997). According to Lerche & Rao (1984), each enterprise received a concession area of at least 300,000 ha for log harvesting, planting, and protecting.

Furthermore, in 1986, the results of the fourth national party forum, which shifted the national policy from a centrally planned to a market-oriented economy directed the government to allow foreign and private entities to participate in the field of socio-economic development. As a result, most provincial authorities also established Provincial Forest Enterprises (PFEs) involved in logging and processing. In just two years in 1987 and 1988, more than 120 new provincial joint ventures were signed with foreign companies in the timber industry (Sluiter 1992). In addition, the provinces issued private companies with logging permits to raise revenue for their socio-economic development (Kitamura 2003).

Ironically, the past implementation of the forest policy described above failed to achieve the government's objectives. According to MoAF (2005), although many logging enterprises were established, most of them operated at a considerable loss to the government because of their lack of ethics and poor business management skills. In particular, MoAF (2005) confirmed that the management and operations of these State-Owned Enterprise (SoEs) were very inefficient despite generous government support.

In addition, while loggings and timber exports increased drastically, the revenue raised from this logging activity was not as high as expected, and was not effectively used to invest in the agricultural and forestry development. Furthermore, even though the enterprises were compelled to plant trees in order to rehabilitate the degraded forests which resulted from their logging activities, actual plantation establishment was very limited during this period (Kitamura 2003). As a result, forests in Laos rapidly shrank in area by nearly 13% within 15 years: from 60% of the total land cover in 1975 to only about 47% in 1990 (MoAF 2005).

2.2 Rethinking the forest policy (1989-1999)

After experiencing chaos in timber harvesting and rapid forest degradation, the Lao government realized that its perception of and approach to timber harvesting neither worked in a way that promoted sustainable forest management, nor effectively generated income for the country. Consequently, in 1989, PM Kaisone Phomvihane called for the first National Forestry Conference to review and rethink the forest policy. The conference produced an important decision which took shape in the promulgation of the Decree 66 on a Tropical Forestry Action Plan. This decision reflected concerns over rapid depletion of forest resources resulting from both legal and illegal logging (DOF 1990). According to (MoAF 2005), the conference had agreed on steps to be taken to achieve the return forest cover to a 70% in 2020 and most SFEs and PFEs were dissolved by privatization or were rented out to foreign companies.

The conference also called for a ban on indiscriminate logging by issuing PM Decree 117 (1989) which stipulated that logging should only take place in the inventoried production forests with an approval from MoAF. Furthermore, logging quotas were preferentially given to the firms engaged in export-oriented operations with long-term and optimal resource use. This was one of the key incentives that encouraged the firms to use forest resources wisely as well as to develop their downstream processing facilities (DOF 1995). Under this decree, the government also set a national harvest/logging plan and provided the provinces with individual logging plans. However, in the course of implementation, many provinces harvested above the rate specified in these plans, arguing that they needed additional funds for their local development. Furthermore, there were many cases of illegal activities concerning log sale contracts, loggings and grading (MoAF 2005).

In order to solve the above problems, as well as to ease royalty fee collection, in 1994 the government introduced a 'two-tier logging plan system' as a means to control logging (see PM order No 16, 1994). On one tier, the logging plans were given to the three SoEs-- one each in the northern, central, and southern regions-- in order for them to harvest timber for both export and domestic consumption. Once they had obtained logging quotas from the central government, they distributed these to several sawmills in each province.

The SoEs also contracted out logging operations to smaller contractors. On the other tier, however, the SoEs were required to submit forest management plans to the Department of Forestry for approval before they commenced logging.

The Ministry of Finance was responsible for selling logs to the buyers. It then paid the logging companies after subtracting from the resource royalty (Akkharath 1997). This system increased the rate of forest degradation because of inefficiency in logging control. As a result, it was terminated in 2000 when PM Order No 11 was issued to return to the previous system in which all harvest quotas are given to provinces.

2.3 Increasing downstream timber processing (1999-present)

Due to concerns about the depletion of the national forest resources and low value of raw log exports, the country implemented a policy to promote downstream timber processing (DTP). Despite the fact that most timber companies in Laos are underdeveloped, with poor infrastructure and technology, low human capacity, and modest investment, the country has taken three significant steps since 1999 to promote DTP industries.

Firstly, the Government banned log exports and instituted a reduction in sawnwood exports by issuing PM Order No 11/1999, 10/2000, and 15/2001.

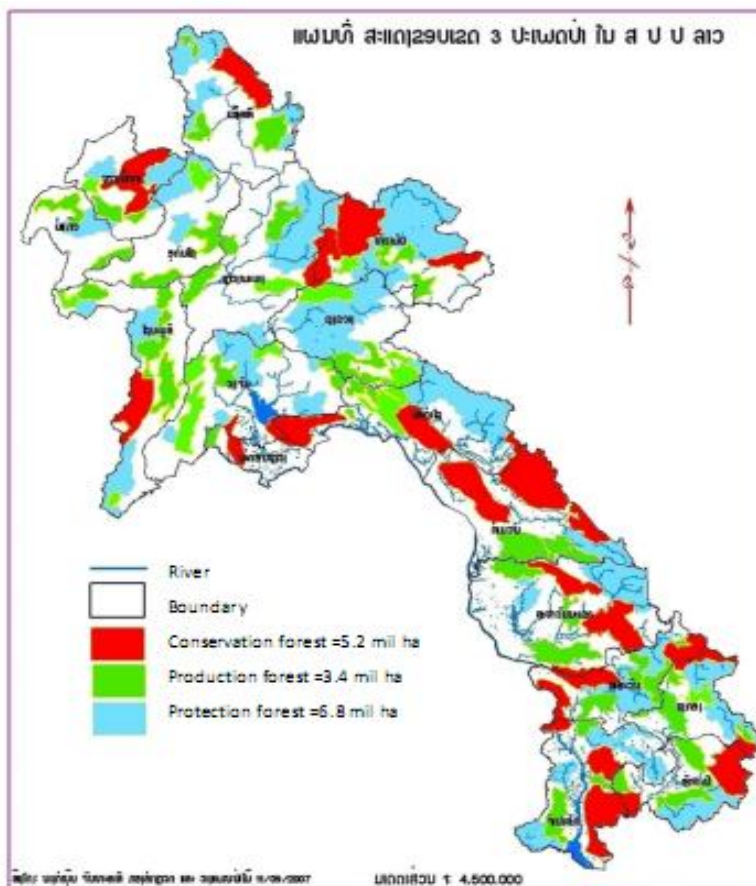
Secondly, the Government put an emphasis on the development of timber processing. For example, MoAF Instruction No 267/2000 required timber industries to produce semi-finished or finished products by using high technology and high productivity machinery. In addition, the Government promoted foreign investment with joint venture arrangements in secondary processing industry in order to protect domestic producers of semi-finished and finished products (see PM Decree No 46/2001). Furthermore, so as to reduce pressure on natural forests, PM order No 18/2002, PM Decree No 300, and 301/2005 announced that all wood processing firms must to establish their own plantations for future timber supply.

Thirdly, the government promoted exports of processed timber products. This was initiated through a directive to promote the export of semi-finished and finished timbers, as detailed in PM Order No 18 in 2002. This order also regulated the closure of sawmills and furniture factories that fail to meet industry criteria issued by the Lao Ministry of Industry and Commerce. Subsequently in 2004, the Government restricted exports of sawnwood further by only allowing exports of finished timbers and selected semi-finished timbers (see PM Order No 25 in 2004). Since 2007, the restrictions have applied to exports of both logs and sawnwood in Laos. However, whether this new policy regime can be implemented and whether it can support a sustainable forestry sector are questions to be answered.

3. Forest sector governance

3.1 Lao forest ownership

Article 4 of the forestry law states that forest ownership in Laos consists of the state owned and privately owned forest and forestland. According to MoAF (2005), private entities own only about 13% of the total Lao forests. These are tree plantations on both private and state forestland that have been planted as investments by private entities. Thus, logs harvested from these lands belong to the land/plantation owners. The owners have the right to use, trade, and export them based on market prices.

Figure 1: Map of state forests in Laos

Source: Department of Forestry (2011)

Meanwhile, the state owns natural forests, which cover 87% of the forest area, or about 15.4 million ha (MoAF 2005). Based on the forestry law, there are three types of managed forests: Conservation forests, protection forests, and production forests (Figure 1). Conservation forests, which are about 33.7% of the total area of the state forests, are allocated to the conservation of biodiversity and historical sites, ecotourism development, and research and education. Meanwhile, protection forests, which cover over 44% of the total state forest area, are designated for environmental protection, such as the protection of watershed, prevention of soil erosion and natural disaster, as well as strategic areas for national security.

The remaining 22% of state forests are production forests, which are designated for wood production to supply the demand of both domestic consumption and exports. Thus, the log removal from both management forests and development projects within the state forests belong to the state. According to the PM order No 25, the Lao Government manages and sells the logs on behalf of the state by opening them up for auction subject to a floor or reserve price (PM 2004).

3.2 Governance of investment in the forestlands

Investment in the forestlands is principally under the auspice of the Ministry of Agriculture and Forestry. The ministry has a mandate to collaborate with the other concerned ministries to ensure that investments are on the basis of a sustainable forest management regime as well as in line with the national socio-economic development plans, the forest strategy, and the environmental strategy (GoL 2007). For these reasons, although the Lao Government encourages sustainable forest management and conservation, many investment projects have converted forestlands into other land use.

Table 1: Forestland development governance in Laos

| Activities | Forest land status | Area (ha) | Proposing agency/with (agency) agreement | Endorsing agency |
|--|------------------------------|------------------------------|--|------------------|
| Land conversion for agriculture production and other purpose of uses | Degraded forest & forestland | < 100 | PIP+PLMA ¹ /PAFO ² | POA |
| | | 100< 1,000 < | MIP+NLMA ³ / MoAF ⁴ and POA ⁵ | GoL ⁸ |
| | | >1,000 | GoL | NA ⁶ |
| concession for industrial tree plantation | Degraded forest & forestland | <150 with 30 years | PIP+PLMA /PAFO | POA |
| | | 150<15,000< with 30-40 years | MIP+NLMA /MAF | GoL |
| | | >15,000 | GoL | NA |
| Infrastructure development: dam construction, mining | All types of state forests | N/A | GoL | NA |

Source: modified from the Lao Forestry Law version 2007

Note:

1. Provincial Land Management Authority
2. Provincial Office of Agriculture and Forestry
3. National Land Management Authority
4. Ministry of Agriculture and Forestry
5. Provincial Office of Administration
6. National Assembly
7. District Office of Land Management Authority
8. Government of Laos
9. District office of Agriculture and Forestry
10. District office of Administration

As summarized in Table 1, conversion of the forestlands for agricultural production and other purposes is only allowed in degraded forests under the supervision of the forest officers. While authorization from the Provincial Office of Administration (POA) is sufficient when the proposed conversion area is less than 100 ha, only GoL can issue permission for a proposed conversion area between 100-1000 ha. Any proposed conversion area beyond 1,000 ha needs permission from National Assembly (NA). Likewise, only degraded forestland can be approved for use as industrial tree plantation.

If the proposed area is less than 30 ha and the concession period is less than 30 years, permission is required from POA. Permission from GoL is required if the proposed concession area is between 150 and 15,000 ha. Beyond this area, endorsement is required from the NA. However, if state forests are to be converted permanently or temporarily for hydropower, road construction, or mining operation, only the NA can issue permission and this may affect any forest type.

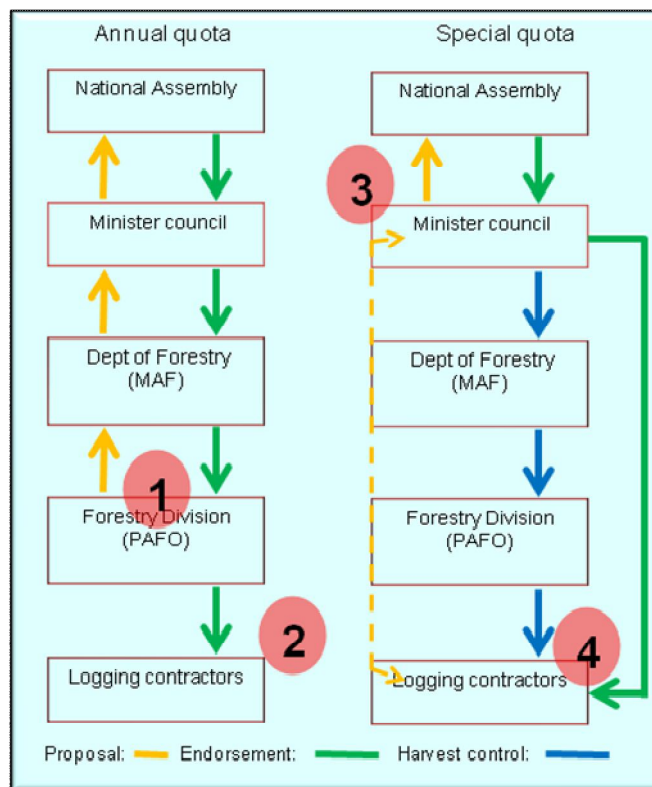
While the governance regime for investment in forest land development is straightforward and well documented in the government regulatory framework, translating this regime into practice can cause trouble for the current forest management system and for local livelihoods (also see Schoenweger & Ullenberg (2009)). This is because there are many gaps in the governing of investments in the forestlands. Four major gaps are (Figure 2):

- 1) Degraded forest definition and ownership: degraded forests being proposed for investment are often poorly described and mapped, and forestland zoning for investment has not been done in many provinces. As a result, the status and ownership of degraded forests is rarely understood during the course of searching for land for a concession. While the local government officials employ their de jure right to obtain the land for concession as stated in the forestry law, the local forest dwellers claim their de facto right to own the land on the grounds of their long time occupation of it (Fujita & Phengsopha 2008; Olivier, Richard & Silinthone 2005; Thongmanivong et al. 2009).

- 2) Criteria relating to the financial value of a proposed investment are often not consistent with the area of land under application in the investment proposal. For example, a province can authorize an investment up to US\$3 million¹. Despite this approved ceiling, an investment covering an area over several thousand hectares can be authorised without the permission of the central government. See for example, a case study of an investment in a rubber plantation in Oudomxay province (Thongmanivong et al. 2009).
- 3) Investment and planning officers play an active role in investment promotion by co-operating with Land Management Officers to supply land for an investment. Unfortunately, the forestry officers have only the right to comment on the investment proposal and therefore the fate of the sustainable forest management has been left in the hands of the decision makers whose priorities lie in investment promotion. Several cases have been seen in Laos where concession areas have been approved in conservation or protection forests (VientianeTimes 2010a).
- 4) The Lao government prioritizes development activities that contribute to the national agenda on poverty reduction. Hence, investment proposals relating to infrastructure development such as hydropower construction, mining operations, and road construction are rarely rejected. Forestry officers at all levels have no power to oppose the activities even though they may destroy natural forests of high conservation or other values.

These represent major challenges for sustainably managing natural forests as the main supply sources of timber to the Lao forest sector.

Figure 2: Quota systems and their challenges on sustainable timber harvest in Laos



3.3 Timber harvest governance

Governance of timber harvests in Laos is summarized in Table 2. There are significant differences in the governance of privately- owned forests and state-owned forests:

¹ Type 1 investment which include agriculture, handicraft and tourism in Article 25 of implement decree of Foreign Investment Promotion Law No. 301/PM of 12/10/2005.

Table 2: Timber harvest governance in Laos

| Sources of timber | | Users | Purpose of use | Proposing agency | Endorsing agency |
|-------------------|--|--------------|---------------------|------------------|------------------------|
| State forests | -Protection or conservation forests (controlled use zone only) | Community | Village development | DAFO | DOA |
| | - Production forest | Individual | house construction | Village admin | DOA |
| | Production forest | Province/GoL | Sale | GoL | NA |
| | Construction area | Province/GoL | Sale | GoL | NA |
| Private forests | Planted trees (protected species) | Owner | Sale | DAFO | PAFO |
| | tree in private property | Owner | Consumption | | Report to Village head |

Source: modified from the Lao Forestry Law version 2007

Timber harvest in the privately-owned forests

The governance of timber harvesting in privately-owned forests appears to be simple. Given de jure rights, the owners can arbitrarily use timber from their own plantations or from their own land. However, if they harvest for a commercial purpose, and especially if they harvest a controlled species, permission from PAFO is required. Privately-owned forests play a minimal role in the timber sector in Laos at present, so policy changes for these forests would not affect the market and trade of Lao timbers.

Timber harvest in the state forests

The governance of the timber harvest in the state forests is far more complicated. The harvests serve two primary purposes: consumption by the forest dwellers, and trade. The permission process for the timber harvesting by the forest dwellers also differs depending on the purpose of use. Dwellers who desire to harvest timber for house construction and maintenance need to consult with the village head who will ask permission from the District Office of Administration (DOA). If the use is for community benefit, such as for construction of village office, school, and temple, the village head needs to approach DOA in order to request the harvest authorization from Provincial Office of Administration (POA). However, no permission is needed if it is customary use such as fuel wood collection. In addition, harvesting in the protection and the conservation forests for local consumption purposes is allowed but only in 'controlled use' zones.

Timber harvests in state forests for trade are administratively complex and take more time to receive permission. They are restricted to provincial and national revenue generation. Decisions on the harvests are made through two quota systems: an annual logging quota and a special logging quota. The annual logging quota system is a bottom-up permission process (Figure 2.3). Initially, provincial authorities submit a logging quota proposal to DOF. DOF then compiles the proposals from all provinces and develops a national logging quota plan. This is then submitted to NA for approval as part of the mainstream socio-economic development plan. The approved logging quota plan is then distributed to provinces by MoAF. The province then grants the harvest quota to the production forest unit of DOA (MoAF 2005).

In contrast, the special logging quota is a top-down permission process, in which the central government makes the sole decision subject to the approval of the NA. It is a special process because a decision is made based on the need to raise the national or provincial budget for social and economic development. Baird (2010) has further classified the special quota into five sub-quotas: deadwood logging, debt-repayment logging, development logging, military logging, and plantation preparation logging.

These are granted to most provinces but the quota amount varies depending on the richness of the forests of the grantee provinces. In principle, timber under these special quotas (except for deadwood logging) can only be collected in the forests that are not included in the protection, conservation, and production forest categories. Different quotas are often granted to different entities.

According to Southavilay & Castrén (1999), the annual quota is mostly granted to local small to medium timber industries for downstream processing while the medium to large timber industries, such as So Es, are granted special quotas for processing and in some circumstances for export.

Sales of logs under both quotas are made at the log landing II through auction. This is undertaken by the timber auction committee under the leadership of the governor of the province where logs are harvested. The committee includes representatives from the provincial offices of finance, industry and commerce, and forestry (MoF 2004). According to PM order No 25, revenue from the log sale after operation costs is transferred to the central government account. However, the sale of logs harvested from dead trees and other timber waste in the state forests is for the benefit of the provincial account (PM 2004).

Although the government has performed better over the last few years in the reduction of unlawful activities in the forest sector (Baird 2010), sustainable timber harvests remain difficult to achieve. Many studies have claimed that the key challenges come from unwillingness of powerful policy makers at all levels (Baird 2010; Forest Trend 2010; Hodgdon 2006, 2008) as well as a lack of government capacity and of coordination among related government agencies in implementation of the forest policy (Fujita & Phengsopha 2008; MoAF 2005; Schoenweger & Ullenberg 2009). However, it should be recognised that many loopholes are embedded in the current practice of the harvest permission process, based on the two quota system.

For the annual quota permission system, logging quota development should be technically based on the log production capacities of the production forests in order to ensure a sustainable harvest. However, current practice seems to undermine the government's objective of sustainable harvest management. As shown in Figure 2.3, at Point 1, the proposal developed by POA is mostly based not only on the demand for logs to supply local sawmills but also the financial needs of such provinces (Sothavilay & Castrén 1999).

Furthermore, as the proposal development is also based on the results of timber surveys in the production forests that are conducted by the local foresters, opportunities arise for them to receive incentives from logging companies to report higher quantities of particular species in particular production forests. Therefore, if the quantity of logs harvested from the particular production forests does not meet the quota allowance, the remaining amount can be harvested in other forests (Baird 2010).

More importantly, at Point 2 of the same figure, timber cutting usually exceeds the quota allowance by as much as 30% (Anonymous 2009a); some sources have even claimed that it may exceed it by over 200% (Baird 2010; Kenney-Lazar 2010). While this discrepancy can be explained by incorrect log measurements taken by the foresters, using these excess logs to cover the bribery costs is common (ForestTrend 2010). Consequently, current logging in the production forests is undoubtedly beyond the sustainable allowable cut under the annual logging quota system.

Loopholes in the special quota grant system are even more critical due to the fact that the decision is usually confidential. As shown at Point 3 in Figure 2.3, the decision to grant a special quota, made by NA, is based on the immediate budget need as well as the need to clear the land for development projects and for plantations (Baird 2010). For this reason, in many cases special logging quotas in the conservation or protection forests must unavoidably be granted especially those for mining operations and infrastructure development. In addition, the decision disregards existing forest regulatory frameworks: for example, exports of logs from a special quota grant often occur despite being prohibited by the forest law (EIA & Telapak 2008; Forest Trend 2010; Kenney-Lazar 2010). Furthermore, at Point 4 of the same figure, controlling log harvest under a special quota grant is difficult because log contractors resist logging control exercised by the local foresters (Anonymous 2009a).

These governance gaps allow some officials at both central and local government levels to legalize timber logged from unsustainable sources. The result undermines not only the current endeavour to establish a sustainable forest management system but also the sustainable timber supply in Laos. While the log supply from production forests can be measured from their production capacities, the supply from other forests especially from special logging quotas can be hard to predict.

3.4 Timber industry and trade governance

While attempting to reconcile the conflicting imperatives of its socio-economic development strategy, the Lao government has changed the regulatory framework of the timber processing industry. For 30 years, all forestry and timber processing activities were regulated by MoAF.

However, it was claimed that ineffective management of the forest sector resulted in widespread violation of forestry regulations. For this reason, in 2005, the National Assembly empowered the Ministry of Industry and Commerce (MoIC) to regulate the timber processing sector while maintaining the role of MAF in regulating the forest management and harvesting sectors (Sayakoummane & Manivong 2007). Within MAF, in the early 2009 a new Department of Forest Inspection (DFI) was established with extraordinary power to inspect all aspects of the forest sector including logging, timber processing, and timber export operations.

Table 3: Timber industry and trade governances

| Activities | description | Management agency | Endorsing agency | Sources |
|------------------------|--|-------------------|------------------|--|
| Log production | Forest management, plantation, log harvest | Forestry bureau | Forestry bureau | Lao Forestry Law (2007) |
| Timber processing | Timber factories such as Sawmills, plywood factory, furniture's. etc | Industry bureau | Industry sectors | Minister agreement No 1195/MoIC (2009) |
| Domestic Timber trades | Transport of timber and timber products from one province to others | Trade bureau | Trade bureau | |
| Exports | Processed timbers/logs from plantation | Trade bureau | PICO | |
| Export of Logs | Exclude logs from plantations | MoIC, MAF | Government | Lao forestry law (2007) |

Source: modified from the Lao Forestry Law

Table 3 outlines the current management system of the forest sector activities in Laos. As can be seen in the table, log production activities, which include natural forest management, plantation, log harvest, and log transport to a second landing, take place under the auspices of the forestry bureau. When logs are taken into the processing industries, they are overseen by the industry bureau. In addition, the entry of processed timbers into both domestic and international markets is the trade bureau's responsibility. However, if the export of logs is required, only the Lao government can authorize the activity.

Because this governance restructure is just starting to be implemented, there has been very little investigation of its effectiveness on sustainable management of the forest sector in Laos. Baird (2010) sheds some light on the current management regime for the timber industry and trade and those factors which make it hard to control illegal logging (Baird 2010). However, despite a lack of staff and resources at DFI, illegal logging, especially by locals can still be traced at its destination. However, under this restructured management regime, there is inadequate coordination between the forestry bureau and the industry bureau to effect control of the supply chain. Once the logs are transferred to the industries and processed, they are transformed into legal processed timbers that can be legally supplied to the domestic and export markets (Baird 2010).

4. Conclusion

Laos is fortunate to have rich and valuable forest resources. In order to use the resources efficiently and sustainably and to curb illegal activities in the forest sector, the government has restructured forest sector governance. Many earlier studies have claimed that the past and current failure of governance derives from weak laws and regulations. However, even if the policy is vigorously enforced, Laos will still face difficulties in managing its forests in a sustainable manner. Forests and forestlands are among the few valuable resources existing in Laos and there is competition between different bureaus over their use (Schoenwerger & Ullenberg 2009).

For example, MoAF is mandated to work toward sustainable forest management; MoIC is mandated to modernize timber-processing industries. Which in the end may increase demand for logs; and Ministry of Investment and Planning (MIP) and National Land Management Authority (NLMA) are interested in promoting investment in land, which is mostly covered by forests. While each agency has different interests, all of them enjoy a similar power that enables them to approve exploitation of forest resources for different reasons.

Thus, a decision could be quite appropriately made for an investment in forests/forestlands in line with the regulatory framework concerning investment promotion even though it could violate the forestry law. Consequently, deforestation continues in the form of a legal activity that uses forestland resources.

References

- Akkharath, I 1997, 'Stumpage Appraisal for Timber Concession in Lao PDR', Master of Science thesis, University Pertanian Malaysia.
- Anonymous 2009a, Timber harvest in Laos, Personal communication, Attapue, 25/04/09.
- 2009b, Timber trade, a discussion with a high government official of the department of forestry of the Ministry of Agriculture and Forestry edn, 3/3/2009.
- B.Theppavong, Khamphan, K & Vonghachack, S 2001, 'Conservation and Management of Forest Genetic Resources in Lao PDR. Vientiane: Lao Tree Seed Project', Lao Tree Seed Project.
- Baird, IG 2010, Quotas, Powers, Patronage and Illegal Rent-Seeking: The Political Economy of Logging and the Timber Trade in Southern Laos, Forest Trends and UKaid.
- Chanthirath, K 1998, Forestry Resources and the Underlying Causes of Deforestation and Forest Degradation in Lao PDR, IGES, Vientiane.
- CPI, NSC & UNDP 2006, INTERNATIONAL TRADE AND HUMAN DEVELOPMENT LAO PDR 2006, Committee for Planning and Investment, National Statistics Centre (NSC), United Nations Development Programme (UNDP), Vientiane Capital, Lao PDR.
- Daoroung, P 1997, 'Community Forests in Lao PDR: the new era of participation?', Watershed, vol. 3, no. 1, pp. 38-44.
- DOF 1990, Tropical Forestry Action Plan, Department of Forestry.
- DoFoL PDR 1995, Program document for Lao-Swedish Forestry Program phase IV 1995-1999, by ——, Department of Forestry.
- EIA & Telapak 2008, 'Borderlines: Veitname's Booming Furniture Industry and Timber Smugglign in the Mekong Region', p. 24.
- EU & FAO 2002, an Overview of Forest Product Statistics in South and Souteast Asia, FAO, Rome.
- Forest Trend 2010, Timber markets and trade between Laos and Vietnam: a commodity chain analysis of Vietnamese driven timber flows, Forest Trends.
- Fujita, Y & Phengsopha, K 2008, 'The gap between policy and practice in Lao PDR', in Lessons from forest decentralization : money, justice and the quest for good governance in Asia-Pacific, Earths can, London ; Sterling, Va., pp. xviii, 247 p.
- 2007, Forest Law of Lao PDR, by GoL, National Essembly of Laos.
- Hodgdon, BD 2006, 'No success like failure: policy versus reality in the Lao forest sector', Watershed, vol. 12, no. 1, pp. 37-46.
- 2008, 'Frontier country: the political culture of logging and development on the periphery in Laos', Kyoto, vol. 69, pp. 58-65.
- Kenney-Lazar, M 2010, Land Concessions, Land Tenure, and Livelihood Change: Plantation Development in Attapeu Province, Southern Laos, Fulbright Scholar & Visiting Research Affiliate Faculty of Forestry, National University of Laos, Vientiane.
- Kitamura, N 2003, 'Forest policy development in Laos', in M Inoue & H Isozaki (eds), People and Forest-Policy and Local Reality in Southeast Asia, The Russian Far East, and Japan, Kluwer academic publishers, Dordrecht/Boston/London.
- Lerche, C & Rao, YS 1984, a note on forestry sector in Lao PDR, Regional Office for Asia and the Pacific, Food and Agriculture Organisation of the United Nations, Bangkok, Thailand.
- MAF 1996, Minitier order No 121/MAF on patrolling illegal logging, timber moving, none timber harvesting, and timber industry, MAF.
- 2005, Forest Strategy to the year 2020, Vientiane.
- Midgley, S 2006, Position Paper on Tree Plantation Sector Development in Lao PDR, Forestry Strategy 2020 Implementation Promotion Project, Department of Forestry, Vientiane.

- 2004, instruction of Minister of Finance No 2297/MoF on auction of timber from state forests and infrastructure areas, by MoF, Ministry of Finance.
- Olivier, D, Richard, LJ & Silinthone, S 2005, 'Land Policy and Farming Practices in Laos', *Development and Change*, vol. 36, no. 3, pp. 499-526.
- 2004, Order of Prime Minister No 25/PM on management of forest and timber business for 2004-2005, by PM, Prime Minister Office.
- VOA 2009, *Illegal Logging Increasingly Prevalent in Laos 2009*, 24/02/2009. Distributed by Voice of America.
- RWEDP 2000, *A STUDY OF THE SHARE OF FUELWOOD IN TOTAL WOOD PRODUCTION IN PRIVATE TREE PLANTATIONS IN LAO PDR*, FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS (FAO), Vientiane.
- 2002, *Laos: Wood Energy situation*, 12 31.
- Sadettanh, K & Kumar, S 2004, 'Renewable energy resources potential in Lao PDR', *Energy Sources*, vol. 26, no. 1, pp. 9-18.
- Sayakoummane, S & Manivong, V 2007, *Research Paper: Environmental Impacts of Trade Liberalization in the Wood and Wood Products Sector of the Lao PDR*, Department of Forestry, Ministry of Agriculture and Forestry, Laos.
- Schoenwerger, O & Ullenberg, A 2009, *Foreign Direct Investment (FDI) in Land in the Lao PDR*, GTZ, Eschborn.
- Sluiter, L 1992, *The Mekong Currency*, Project for Ecological Recovery/Towards Ecological Recovery and Regional Alliance, Bangkok.
- Southavilay, T & Castrén, T 1999, *Timber trade and wood flow study - country report Laos*, Poverty Reduction & Environmental Management in Remote Greater Mekong Subregion (GMS) Watersheds Project (Phase I).
- Thongmanivong, S, Phengsopha, K, Chantavong, H, Dwyer, M & Oberndorf, R 2009, *Concession or cooperation? Impacts of recent rubber investment on land tenure and livelihoods: A case study from Oudomxai Province, Lao PDR*, NoUL, RRI, RECOFTC, Vientiane.
- UNIDO 2003, *Lao PDR: Medium-term Strategy and Action Plan for Industrial Development*, Ministry of Industry and Handicrafts, Vientiane.
- Vientiane Times 2010, 'Taskforce to inspect land use rights', *Vientiane Times*, 11 Aug 2010.
- White, A, Sun, X, Canby, K, Xu, J, Barr, C, Cossalter, C & Nilsson, S 2006, *China and the global market for forest products: transforming trade to benefit forests and livelihoods*, *Forest Trends*, Washington, D.C., USA.
- WorldBank., Sida, MoFA & GoF 2001, *Lao PDR Production Forestry Policy*, World Bank/Sida/Ministry of Foreign Affairs, Government of Finland, Vientiane.