TIMBER TRADE AND WOOD FLOW–STUDY

Regional Report

By

Tuukka Castrén

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1. Introduction

1.1 Background

The current study on wood demand and supply and forest industries in the Greater Mekong Sub-Regions is a part of the Poverty Reduction and Environmental Management in Remote Greater Mekong Subregion Watersheds project and its Timber Trade and Wood Flow-study. The current study is the regional report and deals with issues having inter-boundary implications and identifies possibilities for regional co-operation. Furthermore the situation in the six countries is compared through verifiable indicators of the wood trade.
The technical details are presented in the country reports dealing with three interrelated topics:

i. the general pattern of wood use and demand/supply in the individual countries

ii. the timber trade to/from the country

iii. forest industries, and their role in national industrial strategies

The current report is not a summary of the national reports but a study on the regional aspects and development potential for forest utilisation in the GMS. The national analysis and recommendations may be found in the national reports rather than the current paper. Some general recommendations and proposals for future activities are presented; more country specific topics are dealt with in the respective country papers.

1.2 Data

The intention of the study is not to assess detailed volumes and structure of trade, but rather to facilitate the visualisation of the pattern in wood and primary wood product trade. Taking into consideration the accuracy of the available data in all the project countries, any attempts to gain detailed information on actual volumes traded would be fruitless for, among others, the following reasons:

- inaccuracy of official statistics,
- much of wood consumption is local, household level utilisation goes largely unrecorded,
- domestic subsistence use does not even pass through the market mechanism, viz: products are not valued in monetary terms,
- in many countries illegal logging is rampant

2. Resources in the GMS Countries

The GMS countries may be basically divided into two groups based on their role in the regional wood trade scene; the classification is based on the two simple criteria: wood production capacity and wood processing capacity. These two categories are a) countries with large processing capacity and little wood production capacity, Wood Industry Countries and b) countries with large wood production potential but relatively smaller processing capacity, Forest Production Countries.

<table>
<thead>
<tr>
<th>Wood Industry Countries</th>
<th>Transition Countries</th>
<th>Forest Production Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thailand</td>
<td>Cambodia →</td>
<td>Lao PDR</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>←←←← Yunnan</td>
<td>Myanmar</td>
</tr>
</tbody>
</table>

Thailand and Viet Nam have developed forest industries with capacity to process wood volumes far beyond the annual allowable cut in the countries. This has been strengthened by the forest policies followed in these countries, namely a total natural forest logging ban (Thailand) or strongly reduced logging in natural forests (Viet Nam). Their forest industry policies are to utilise more resource rich neighbouring countries while preserving national forests; both of these countries have seriously depleted their own resources by agricultural encroachment and shifting cultivation as well as logging, prior to turning to other countries to supply their industries. The forest cover loss has followed population growth and consequent agricultural expansion, while the process may have been aided by commercial logging that has made the forests more accessible.

The Forest Production Countries – Lao PDR and Myanmar – still have abundant forest resources and some wood processing industries capable of producing primary processed products which are often exported to neighbouring countries to be converted into consumer goods. Both countries have had obstacles that have hindered development of large forest industries to utilise the resource: political instability in Myanmar, and small domestic markets, lack of capital and the land-locked status in Laos. Both countries also have only modest infrastructure. Also legislative and institutional set-up has had characteristics that discourage forest industries in general and private sector industries in particular.
Two countries are in a transition phase. Yunnan has been a Forest Production Country but introduced a logging ban in October 1998, the effects of which are still to be seen. The ban was introduced due to the heavy flooding in parts of China the same year but was instituted without any background studies or analysis on the demand-supply-balance in the province. Yunnan has forest industries that have been using wood from the province, and may now have to turn to sources in Myanmar and Laos to replace the loss of local wood supply. Cambodia has huge wood processing capacity to process the "anarchically" cut logs; the processing capacity in total is some four times the sustainable yield of the Cambodian forests. The overlogging in Cambodia will not last long since with the current pace resources will be exhausted over the next decade. And if law and order is reintroduced to the forests logging volumes will be reduced sooner. What will happen to the wood processing capacity after the reduction in logging remains to be seen; either it will become obsolete or Cambodia will have to start importing wood from abroad. In view of the state of technology and short-term profit making of the industries, the former option may be more likely.

The Wood Industry Countries have large forest industries and as a result its share of manufacturing industries' contribution to GDP is higher than in the Forest Production Countries, indicating that wood processing industries in GMS countries tend to be located in areas with already existing industries rather than near raw material sources. This is supported by the location of industries inside the countries; most of the wood processing industries are located in urban areas rather than deep in the countryside. Only the capital intensive pulp mills, perhaps a bit paradoxically, are located near their raw material base in plantation areas. (Figure 2.1)

Despite the different strategies selected, or dictated by circumstances, all the GMS countries have large scale logging activities and/or forest industries, and there has been widespread concern with the sustainability of natural forest utilisation in the region. All the countries, including Thailand despite a decade old logging ban, have faced declining forest areas. It is also worth noting that the countries with the lowest forest area per capita also have the highest deforestation rates. This indicates population pressure being a major factor in deforestation. (Table 2.1)
3. Institutional Arrangements in Forestry

The six countries forming the GMS have all had different backgrounds and twists of history; three were, prior to World War II, French colonies and following that suffered extended periods of warfare; one has been independent all the way and one, after British colonial rule, has had its share of internal instability. Conversely Yunnan is not a state but a province of People's Republic of China.

The different backgrounds have led to a large variety of institutional arrangements and legislative structures in these six countries. Apart from Thailand, the other five countries are in a process of transforming from central planned economies towards more market oriented structures. This legacy can be seen in the strong position the state owned enterprises still have in the forestry and wood processing industries, and even in Thailand all the forests are still owned by the state; the Royal Forest Department even has a commercial arm (Forest Industries Organisation), though it does not have a dominant role of any description.

As said above, natural production forests are under state or communal ownership in all six countries. Utilisation of the resource has generally been through parastatal or government agencies that have both made the management decisions and implemented the policies. Logging and its management has been done by selective logging systems usually under concession arrangements of various type, apart from Myanmar which has been following the Myanmar (previously Brandis and Burma) Selection System of a 30-year logging cycle and Thailand that has a total logging ban. Concessions have in Viet Nam and Laos been awarded to State Owned Enterprises with no bidding process and the enterprises have become relatively powerful compared to generally weak forest authorities. The same applies in Myanmar, where the state log monopoly (Myanmar Timber Enterprise) may be seen to have a concession over the whole country. In Cambodia concessions are granted to, local or foreign, private enterprises through a less than transparent processes. Only in Yunnan is the actual management responsibility and logging decisions made by the same body, and even then they are monitored by provincial forest authorities.

The concealed processes of concession/logging right allocation typically lack transparency, leading possibly to corruption and inefficient management. The state logging companies have reached a position where the primary guardian of the national forest estate, the Forestry Department, has become weak compared to the logging companies who often have, as money making organisations, strong backing both in the national and provincial capitals. A characteristic feature in the sub-region is the central role of the military in forest and other natural resource utilisation. They have been issued privileges to finance parallel budgets by granting logging quotas with preferential royalty rates.

Not only is the inefficiency and lack of transparency a characteristic of the logging activities, but also of the allocation of logs to processing mills which generally involves special arrangements, administrative quotas and hardly ever is the process open or market based. Only in Thailand do the processing mills obtain the raw material from somewhat competitive channels, while in Myanmar logs to the private sawmills are sold in public auctions – the state owned mills and the logging organisation fall under the same enterprise.

A prerequisite for increased transparency, efficiency, and consequently government royalties would be to distinguish the administrative and commercial roles of the public sector. Particularly if there are private forest owners the neutrality of the authorities should be made evident. For example in Yunnan, all forest owners and the sustainability of their operations is controlled by County Forest Bureaux. However, the Forest Bureaux also

<table>
<thead>
<tr>
<th>Forest area per capita, ha, 1985</th>
<th>Average annual deforestation, 1973-85, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cambodia</td>
<td>0.54</td>
</tr>
<tr>
<td>Lao PDR</td>
<td>4.60</td>
</tr>
<tr>
<td>Myanmar</td>
<td>1.19</td>
</tr>
<tr>
<td>Thailand</td>
<td>0.33</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>0.27</td>
</tr>
<tr>
<td><strong>GMS Countries (excl. Yunnan)</strong></td>
<td><strong>0.62</strong></td>
</tr>
<tr>
<td>Yunnan, PoC</td>
<td>0.29</td>
</tr>
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<td>n.a.</td>
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</tbody>
</table>

own County Wood Companies trading in wood products on a commercial basis. Moreover the Bureaux also
control, albeit indirectly, the State Forest Farms – the main structure of forest ownership in the province. Under
such an institutional set-up the neutrality of the controlling authority vis-à-vis private and other non-state parties
is not always guaranteed.

In Laos, the state owned regional logging companies may be able to influence provincial authorities to grant
desired logging concessions. Log allocation is purely an administrative process based on a variety of normative
criteria on production capacity, community involvement, etc. The guidance from market signals is non-existent
leading both to over capacity and inefficiency in the production.

Despite striking similarities in the institutional set-up in the six countries they are not alike; particularly Thailand
which due to a different background and rapid economic growth in the past decade, put it in a league of its
own. However, some general guidelines on the institutional development and its strengthening may be
presented.

1. **Clarification of the Chain-of-Command in State Forest Administration and Separation of State
   Administration from Business Activities**

In all the five countries experiencing – current or recent – official cutting in natural forests have had state
enterprises dealing in logging and forest produce. With superior financial strength they have – particularly in
Lao PDR and Myanmar – become more powerful with respect to the alignment of forest utilisation strategies
than the Forest Departments. This has in some cases led to disregard of good forest management practices
and may have endangered the sustainability of forest utilisation.

In institutional development it should be stressed that only one authority is entitled to make forest management
decisions and that this entity should not have direct business interests in logging and wood processing
industries. Most of the forest departments are departments in line ministries obtaining their financing from
budgetary allocations while logging revenues go directly to the Treasury. In medium-term the forest
departments could be converted to semi-autonomous bodies with more independent decision making and
budgetary powers.

All forest areas should have only one unit making the management decisions while allowing legal interventions
if current legislation is not respected. Simple administrative units with appropriate monitoring tools in their
possession are more prone to be both efficient and transparent than complex administrative structures with
webs of formal and informal channels of influence. The management bodies could be:

- a. Forest Department (FD) or local sub-unit
- b. local community–FD joint management committee
- c. local community alone
- d. private/parastatal enterprise (concessions, should be phased out in short to medium term)
- e. private/parastatal enterprise (plantation)

The role of various semi-administrative–semi-business units – like the State Forest Enterprises (SFE) in Viet
Nam – needs to be clarified. All administrative units should have a clear and unique mandate as government
agencies with rights and responsibilities of government departments. On the other hand, organisations with
production or trading objectives should have a distinct business mission, be independent legal units – i.e. not
government departments – and be run in a commercial manner being eventually subject to privatisation if such
policies are adhered in the country. In order to strengthen the impartiality of the forest administration, these
forest sector parastatals could be under a different ministry than the forest department, e.g. Ministry of Trade
and Industry, or a state holding company.

2. **Log Markets and Allocation**

All logs should be marketed through competitive channels, either in auctions or through other means ensuring
effective allocation of logs. Auctions should be arranged often enough to ensure that changes in market prices
are reflected effectively and also in smaller lots to ensure possibilities for smaller firms to participate. Wood
processing and log purchase should be de-linked to allow formation of log markets. Once such markets, with
adequate volume and representative price quotations, have been established the log sales may take place
through direct agreements in addition to auctions. The prices in direct sales should reflect the auction or open market prices.

Any preferential sales agreements should be thoroughly analysed and abolished if no justification in terms of more effective resource allocation may be found. The proposed auction system will lead to questioning of the role of barter log sales. Some governments, Laos in particular, have favoured barter agreements to pay for infrastructure projects. Experience is that the government would have generally been better off were the project financed in monetary terms and the logs sold in the open market.

Log export bans have often been promoted to increase value added production in wood products and thus national well being and the unit value of exports. In some cases these bans have had the desired effect and an indigenous wood processing industry has emerged, contributing positively to employment, export earnings and Gross Domestic Product growth. Banning all export has also had negative side effects; domestic roundwood prices have gone down and the mills have, as the relative price of logs has decreased, become inefficient in raw material usage. Logs export bans have, instead of promoting investments in new capacity led to a degrading of the technology level in the industry, with less competition and lower wood prices even inefficient mills become financially viable.

Temporary export bans may be justified under two circumstances: a) force majeure action in case of serious disorder and widespread illegal logging and smuggling, or b) to protect infant industries, particularly if the main markets have notably higher tariffs for processed wood products than logs. If applied in the latter case, bans should have limited duration, gradually being lifted with no extension.

Some countries have applied higher royalty rates for export logs than for logs processed locally, and the same line of argument could be applied against it as in the case of an export ban. However, in Myanmar lower domestic log prices are motivated by the high tariffs in India – a major market for Myanmar – on processed wood products as opposed to logs. The lower rate only compensates for the disadvantageous trade barriers.

3. Promotion of Private Sector Incentives

Linkages between the forest authorities and parastatal wood processing companies have left particularly the smaller private mills in a disadvantaged position; the best export quality raw material is allocated to the big mills, often located in national or provincial capitals. The small companies are left with inferior quality logs that may only be processed for the local market.

Forest policies need to recognise the innovative role of the small and medium-size (SME) wood processing enterprises in terms of promoting rural industrial processing and employment. All administrative hurdles need to be removed so that the full potential of the SME – and naturally also larger enterprises – in the private sector can be utilised.

The small mills, due to outdated machinery and lack of capital, are occasionally less efficient than modern mills and are able to produce less value added per input unit than their modern counterparts. Promotion of the private sector should not be promotion of inefficient production; if the units are not economically feasible at current raw material and other input prices they should not be artificially supported. The assistance to the private sector is to take place by creating an enabling environment for entrepreneurship rather than providing ad hoc subsidies.

It needs be noted that increased private sector involvement and market orientation does not signify free-for-all laissez-faire in the forests; on the contrary: de-linking forest management from commercial forest utilisation enables the authorities to regulate the sector more efficiently and with longer term objectives than if they have also a business interest at stake, and particularly if strong parastatals are able to dictate forest policy and management decisions.

4. Community Participation

The other means to increase transparency in forest management have been to increase access to and availability of information by the various stakeholders. The most effective method of ensuring public access to forest management and logging information is to involve the communities, living in or adjunct to the forests, in the decision making.

Various joint forest management or community forestry initiatives have been tested in the sub-region but in none of the countries has community forestry become the mainstream of forest policy; Laos is the most advanced country in this respect, not only have they developed the approaches but also allocated well stocked
forests as opposed to barren land for reforestation.

4. Domestic Wood markets

Information is a powerful tool in analysing and monitoring the forest sector. However, all the GMS countries still lack the ability to provide accurate and consistent statistical data for forest resources and resource utilisation. Statistical information should be used to analyse structural patterns and current developments in the sector in a neutral way and would also provide a mechanism by which statistical anomalies and inconsistencies reveal potential areas of both illegal supply and demand.

Statistical anomalies may originate from three sources: a) poor quality of statistical work (not 100% coverage), b) inadequate monitoring of per se legal logging and trade (e.g. processing not monitored at all), and finally c) illegal logging and trade (logging without license and smuggling). Both categories of legal statistical deficiencies (a and b) create an environment that enables illegal forest activities around the misty zone of legal but poorly monitored forest utilisation.

In order to assess the quality of forest information and monitoring, a Log Tracking Index was developed. By comparing industrial demand with apparent levels of log consumption in the market the index analyses how well publicly available information covers the actual wood trade and utilisation (Table 4.1).

\[
\text{Equation 1: Log Tracking Index}
\]

\[
\text{Log Tracking Index} = \frac{\text{wood industry production (real)}}{\text{apparent log consumption}}
\]

The log tracking index compares the reported wood supply with the reported demand. In fully transparent markets the apparent log consumption may be fully accounted for by industrial demand and the index’s value is thus 100%. Logs are rarely used as end-products and thus apparent domestic log consumption should be reflected as matching semi-processed wood product production (roundwood equivalent). The bulk of the wood industry production is in sawmilling. Both plywood and veneer industries have more marginal role. In the conversion of production figures to wood demand, a standard conversion rate of 50% has been used.

In fully transparent markets the apparent log consumption may be fully accounted for in the industrial demand and the index is 100%.

It needs to be noted that this analysis does not reveal wood that is being logged, processed and exported outside statistics. Neither does the analysis include some marginal uses for logs like pit props and poles. The index in a dynamic tool in analysing the market, once more information is obtained on each component the index can be adapted.

<table>
<thead>
<tr>
<th>Table 4.1: Log Tracking Index Interpretation</th>
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<tbody>
<tr>
<td><strong>Index value</strong></td>
</tr>
<tr>
<td><strong>Status</strong></td>
</tr>
<tr>
<td><strong>Reasons</strong></td>
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<td></td>
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<td><strong>Information status</strong></td>
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</table>

4.1 ITTO Members – Cambodia, Myanmar and Thailand

Out of the six GMS countries four are International Tropical Timber Organization (ITTO) members (Thailand, Cambodia, Myanmar and China). Laos and Viet Nam are not signatories of International Tropical Timber Agreement and thus not members of ITTO. As for China, Yunnan province is not separated in the ITTO
statistics. The members annually report their production and trade in saw and veneer logs. The ITTO secretariat uses these reports and other information sources to produce national statistics. Based on this information national apparent consumption time series data were elaborated for the reporting member countries in the GMS region. (Table 4.2)

**Table 4.2: Apparent Log Consumption in Cambodia, Myanmar and Thailand**

- ITTO (thousand m³)

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</thead>
<tbody>
<tr>
<td>Cambodia</td>
<td>300</td>
<td>402</td>
<td>370</td>
<td>217</td>
<td>112</td>
</tr>
<tr>
<td>Myanmar</td>
<td>975</td>
<td>1698</td>
<td>2315</td>
<td>2320</td>
<td>2303</td>
</tr>
<tr>
<td>Thailand</td>
<td>1672</td>
<td>1634</td>
<td>1385</td>
<td>964</td>
<td>1299</td>
</tr>
</tbody>
</table>

Source: ITTO (1998)

Logs are rarely used as end-products and the apparent domestic log consumption should be reflected as a matching semi-processed wood product production (roundwood equivalent). In the conversion of production figures to wood demand, a standard conversion rate of 50% has been used. (Table 4.3)

**Table 4.3: Industrial Wood Demand and Log Tracking Index**

(Cambodia, Myanmar and Thailand – ITTO)

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</tr>
</thead>
<tbody>
<tr>
<td>Cambodia</td>
<td>314</td>
<td>426</td>
<td>474</td>
<td>278</td>
<td>188</td>
</tr>
<tr>
<td>log tracking-index (from Table 4.2)</td>
<td>105%</td>
<td>106%</td>
<td>128%</td>
<td>128%</td>
<td>168%</td>
</tr>
<tr>
<td>Myanmar</td>
<td>690</td>
<td>706</td>
<td>624</td>
<td>638</td>
<td>690</td>
</tr>
<tr>
<td>log tracking-index (from Table 4.2)</td>
<td>71%</td>
<td>42%</td>
<td>27%</td>
<td>28%</td>
<td>30%</td>
</tr>
<tr>
<td>Thailand</td>
<td>1664</td>
<td>1604</td>
<td>1382</td>
<td>982</td>
<td>1298</td>
</tr>
<tr>
<td>log tracking-index (from Table 4.2)</td>
<td>100%</td>
<td>98%</td>
<td>100%</td>
<td>102%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: Based on ITTO (1998). Based on the constant recovery rate of 50%. Products included in wood industry demand: sawnwood, veneer, plywood

rwe = roundwood equivalent

In **Cambodia**, the ITTO statistics indicate that sawnwood production is based on unrecorded log supply. In 1997 some 70% of recorded wood processing was based on unrecorded wood supply. However, recent research in Cambodia indicates that even these figures are strongly misleading.

Recent studies by Global Witness – a UK based NGO – and a World Bank (WB) financed project indicate that the volumes being logged and traded in Cambodia are not only somewhat larger than officially acknowledged but are actually many-times bigger. A comparison of log production from various sources is presented in Table 4.4. Not only do the independent observers report volumes far larger than DFW but the lowest volumes are reported by ITTO, based on official Cambodian sources. This indicates that even among the officials there is very little information on the actual volumes harvested. Some DFW officials have in private discussions suggested that the figures in Global Witness and WB reports may even be underestimates.

If the independent observers’ report did indeed reflect the actual volumes currently logged, Cambodia would be by far the most important source of natural forest logs in the GMS region.

**Table 4.4: Cambodia - Log Production and Wood Products Export, 1997, different information sources**
The Global Witness report does not state if the non-authorised forest products volume is rwe or product volumes. If it is product volume, the rwe volume becomes 2.3 mill. m$^3$ and the total 3.6 mill. m$^3$ (780% of DFW information).

**Total log production**

Source: Country Report – Cambodia

The most striking difference between the apparent consumption and raw material demand in the industries may be noted in Myanmar. The apparent consumption has been ranging from 1 mill. m$^3$ to 2.3 mill. m$^3$. At the same time wood demand in wood industries has been fluctuating between 0.6 and 0.7 mill. m$^3$, apart from in 1993 with well below 50% of the domestic consumption. This indicates that a) many of the logs are exported illegally, or b) many of the logs are processed by sawmills operating without authorisation. The decrease in log export volumes that took place in 1993-94; was concurrent with the banning of private log exports. However, this did not lead to an increase in processing or a decrease in log production. It may be concluded that much of the wood flows from the private sector continued despite changes in their legal status. The Myanmar Forest Department does not collect information from private sawmills and hence is in no position to trace the non-teak logs sold to these mills for processing. This may explain a major part of the inconsistency.

Wood demand and supply in Thailand is characterised by dependence on imported wood. For the whole period imports have covered more than 95% of log supply and 70-80% of processed wood products supply – and even much of the domestic wood product supply is based on imported logs. The Thai analysis is, however, complicated by the dominance of rubber wood (*Hevea brasiliensis*) in the supply of wood industries. The raw material supply is well covered by the log trade analysis. Every year 98-102% of the wood demand may be traced in the log trade statistics.

The analysis includes only the demand/supply-balance of sawn and veneer logs. Small diameter wood for non-plywood wood based panels, and pulp and paper industry is not included. Much of the particle and fibreboard industries use sawmill residues as a main raw material. Of the three countries, only Thailand has any notable pulp industry. This industry uses plantation wood in its production processes. The species structure is dominated by eucalyptus. Some acacia is also being used.

### 4.2 Lao PDR, Viet Nam and Yunnan province of China

For the remaining three non-ITTO member countries variable information sources were utilised. In all cases the available information was not consistent and statistical imbalances may be contributed both to a) deficiencies in data and b) unrecorded or illegal activities.

Out of the economies of the six GMS countries forestry has clearly the most dominant role in Lao PDR. Forests are, alongside with hydro-electric power (HEP) potential, the most important natural resource in the country. This, combined with the rigid wood markets and narrow export market base (mainly Thailand), has caused large fluctuations in apparent consumption (Table 4.5).

<table>
<thead>
<tr>
<th>DFW</th>
<th>WB project</th>
<th>Global Witness</th>
<th>ITTO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic market</td>
<td>- thousand m$^3$ -</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forest concessions</td>
<td>441</td>
<td>414</td>
<td>403</td>
</tr>
<tr>
<td>Other sources</td>
<td>20</td>
<td>670</td>
<td>52</td>
</tr>
<tr>
<td>[Illegal] log exports</td>
<td>903</td>
<td>847</td>
<td></td>
</tr>
<tr>
<td>Logs, sub-total</td>
<td>461</td>
<td>1 987</td>
<td>1 302</td>
</tr>
<tr>
<td>Forest product exports (rwe)</td>
<td>2 333</td>
<td>1 154</td>
<td></td>
</tr>
<tr>
<td>Total (rwe)</td>
<td>461</td>
<td>4 320</td>
<td>*2 456</td>
</tr>
<tr>
<td>100%</td>
<td>937%</td>
<td>533%</td>
<td>46%</td>
</tr>
</tbody>
</table>

* The Global Witness report does not state if the non-authorised forest products volume is rwe or product volumes. If it is product volume, the rwe volume becomes 2.3 mill. m$^3$ and the total 3.6 mill. m$^3$ (780% of DFW information).

** Total log production

Source: Country Report – Cambodia

**Table 4.5: Lao PDR – Apparent Log Consumption and Raw Material Demand of Wood Industries**
As discussed above, apparent log consumption should be in the same range as industrial roundwood consumption. In Laos variation in the *Log Tracking-index* has been wide; it has ranged from a low 33% to a very high 131%, *i.e.* industries have used 1.3-times the wood supply that year.

The variation in the indicator may be contributed to a) incomplete statistical coverage, b) illegal exports, if they were recorded the apparent log consumption would be lower, and c) wide fluctuations in log stocks. The last factor may have a striking impact on the wood trade. There is only little information on the log stocks in the country. However, the downturn in Thai demand due to the Asian crisis in 1997 led to vast log piles being stored in the second landings in Laos. In Khammouane province in Central Laos alone, some 240 000 m$^3$ of logs are stockpiled in second landings (or a royalty has not been paid for) and an additional 100 000 m$^3$ is currently stocked in the wood yards of saw and plywood mills. This corresponds roughly to 50% of national annual logging. However, the persistent "excess logging" indicates that notable volumes are exported outside official channels, or that sawnwood production is underreported.

The logging companies do not have to pay stumpage to the GoL until the logs are removed from the second landing. Consequently, and in particular taking into consideration the poor quality of the road network in the country, it makes economic sense to cut more than marketed once logging is started in a particular site. The incremental costs are acceptable if compared to the fixed costs of reopening a logging site later on.

A recently introduced logging ban in *Yunnan province of China* means that historical data may not be of assistance for future projections. In China forest statistics are not collected or disseminated effectively and the information on the utilisation of Yunnan forests is limited and unreliable. Based on the available information it may, however, be safely estimated that notable volumes are being processed and/or traded unrecorded.

The recorded log production in Yunnan is 1.7 mill. m$^3$, 26% of which is exported to other provinces in the country while there are no official imports. This leads the apparent log consumption, *i.e.* raw material base for local processing, to be 1.4 mill. m$^3$. (Table 4.6)

There is no information available on forest industry production in Yunnan (*sic*). However, even if the total sawnwood and plywood production capacity is taken as the indicator of Yunnanese wood industry production, it is obvious that there is a vibrant informal wood market in Yunnan. With the constant recovery rate of 50% some 70% of the apparent log consumption may be contributed to official wood processing or export. The actual *Log Tracking-index* is most likely lower due to production being below full capacity level.

### Table 4.6: Yunnan province of China – Apparent Log Consumption and Raw Material Demand of Wood Industries

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Apparent log consumption</td>
<td>1 385</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry production (rwe)</td>
<td>&lt;1 000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Log Tracking-index</td>
<td>&lt;72%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Lack of information on production volumes in wood processing industries and any information on pulp and paper industry limits the usability of the results. It is, however, apparent that large quantities of wood are being traded illegally or stockpiled waiting for future processing. The latter factor clearly explains part of the "lost logs"
but its validity is limited for two reasons: a) a construction boom continues to keep sawnwood demand high and b) a logging ban was introduced only in 1998. The data is from 1996/97 when the producers could not anticipate such a ban and had no reason to inflate their log stocks.

In the past ten years Viet Nam has increased its role in the international wood trade. The country has in particular increased its wood furniture industry and has become a major exporter of garden furniture. Simultaneously the country is facing an ever-increasing wood deficit both in commercial logging and fuelwood. In order to overcome the environmental degradation caused by forest loss the Government has initiated a closed forest-policy, i.e. gradually banning logging in natural forests. As in the case of Yunnan, it means that historical data may not be of assistance for future projections. Despite such policy statements, until 1997 there has been a constant flow of wood from natural forests. There are allegations that part of this wood does not actually originate from Vietnamese forests but from neighbouring Cambodia.

The Vietnamese wood balance evens out relatively nicely, only 2-3% of wood supply cannot be followed to point of utilisation. This represents roughly 100 000 m3. (Table 4.7)

Table 4.7: Viet Nam – Apparent Wood Consumption and Raw Material Demand of Wood Industries (excl. woodfuel, incl. pulp industry)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Logs</strong></td>
<td>2 942</td>
<td>2 928</td>
<td>2 124</td>
<td>3 509</td>
<td>3 079</td>
</tr>
<tr>
<td>Small diameter wood</td>
<td>590</td>
<td>601</td>
<td>596</td>
<td>615</td>
<td>684</td>
</tr>
<tr>
<td>Roundwood imports</td>
<td>81</td>
<td>96</td>
<td>87</td>
<td>92</td>
<td>85</td>
</tr>
<tr>
<td><strong>Roundwood exports</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Apparent Consumption</strong></td>
<td>3 613</td>
<td>3 625</td>
<td>2 807</td>
<td>4 216</td>
<td>3 848</td>
</tr>
</tbody>
</table>

**Demand (rwe)**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction wood</td>
<td>1 072</td>
<td>875</td>
<td>746</td>
<td>835</td>
<td>928</td>
</tr>
<tr>
<td>Furniture making</td>
<td>1 870</td>
<td>2 053</td>
<td>1 378</td>
<td>2 674</td>
<td>2 151</td>
</tr>
<tr>
<td>Pit props</td>
<td>292</td>
<td>281</td>
<td>301</td>
<td>300</td>
<td>295</td>
</tr>
<tr>
<td><strong>Pulpwood</strong></td>
<td>298</td>
<td>320</td>
<td>295</td>
<td>315</td>
<td>399</td>
</tr>
<tr>
<td>Demand</td>
<td>3 532</td>
<td>3 529</td>
<td>2 720</td>
<td>4 124</td>
<td>3 763</td>
</tr>
<tr>
<td>demand of apparent log consumption</td>
<td>98%</td>
<td>97%</td>
<td>97%</td>
<td>98%</td>
<td>98%</td>
</tr>
</tbody>
</table>

Source: Country Report – Viet Nam

There are inconsistencies in the Vietnamese logging statistics. Another official statistic presents somewhat lower log supply scenarios for 1995 and 1997. With this alternative supply scenario the Log Tracking-index value becomes 94%, relatively high but there is a gap of unaccounted wood supply of 200 000 m3. (Table 4.8) This supply scenario may be an overestimate. A large share of the exploitation by local people will likely be utilised as domestic fuelwood; particularly as the recorded woodfuel supply is well below the estimated demand.

Table 4.8: Viet Nam – Alternative Wood Supply Scenario

<table>
<thead>
<tr>
<th></th>
<th>1995</th>
<th>1997</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Planned forest exploitation</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The analysis in Table 4.7 is based on official figures obtained from the Vietnamese authorities. There are also substantial additional imports of sawnwood from the adjacent countries, mainly Cambodia.

4.3 Recommendations

The log tracking index-analysis clearly reveals that there is a need to reinforce national forest statistics in all the GMS-countries. None of the countries have adequate forest statistics; in those countries where statistics are produced – Myanmar and Thailand – the statistical coverage is inadequate, covering only state activities, and even have methodological and technical errors.

There is a need to increase collection and dissemination of forest resource, forestry operation and forest industry information and statistical data in all countries. Information is a powerful tool in managing and analysing the sector. It is recommended that all countries initiate a program to improve the collection of forestry data and its publishing; this process would also include national level forest inventories, research on growth and classification of forests, and the economics and social aspects of forest utilisation. The research initiatives particularly need to be started soon as obtaining results takes a long period of time. For effective and transparent forest management and forest policy implementation it is essential that:

i. forestry related statistical data is widely collected and made accessible in a consistent and coherent manner

ii. currently deficient industrial production and foreign trade statistics should be developed, and the information should be collected and made public.

Development could go through a two-step process:

a. the naming of an independent body/ies, e.g. a research institute or national statistical institute, responsible for such information services. The institute would have a right to collect all relevant market and forest resource information in the country. They would also have access to information already collected in the country.

b. the institute[s] would publish the information in such a way that no information from any single market player would be disclosed.

All the countries in the GMS region need to strengthen their forest statistics systems and the development should be harmonised in the region. The initial stage would be to jointly agree upon the nomenclature, methodology of measurements and units of measure. The harmonised level would form the minimum level, e.g. in eight-digit production and trade nomenclature harmonisation would reach the six-digit level leaving two
for national specifications.

It needs to be stressed that the data collection and actual statistical work would be a national responsibility but would be based on jointly agreed standards. Regional co-operation would have three main benefits compared to purely national processes: a) training and training material production could be partly or jointly implemented, b) development costs per country would be lower, this particularly applies to expensive and time consuming computer software development, and c) common nomenclature enables further regional co-operation in analysing and monitoring wood flows.

5. Regional Wood Trade

The international wood trade in the GMS deals mainly in sawlogs and sawnwood, unlike the global trade which, in volume terms, mainly deals with pulpwood and woodchips for the pulp industry. In pure volume terms, exports also present only a fraction of the total wood utilisation that is dominated by fuelwood and other household wood. However, export demand concentrates on the upper-most segment of the market and thus in value terms is more significant than if purely measured in volume units. The environmental impact of export logging is notable as it concentrates on a few species scattered in the forest and the unsustainable export removals easily degrade the forests. A primary example of this is the vast and unsustainable logging in Cambodia. On the other hand, in Myanmar logging has continued for a long time following the Myanmar Selection System which has been able to produce large quantities of export logs in a sustainable manner with little or no adverse impact on the forest cover or the biodiversity values in the forests.

The international wood flow analysis suffers from insufficient data caused by, e.g.:

- smuggling of legal logs to circumvent tariffs, quotas or excessive export bureaucracy
- smuggling of illegally cut logs
- simple lack and/or poor quality of statistics
- foreign trade statistics are collected but are classified and non-accessible
- barter trade is not consistently reported and excluded from some statistics
- national self-sufficiency drives have made import shameful and thus is not reported

The information presented here does not present the situation in any single year but rather describes the pattern and order-of-magnitude in the late-1990’s; the countries do not produce foreign trade statistics simultaneously (if at all) and the statistics do not always disclose the country of destination. Secondary data is most often based on field observations either in the exporting or importing country, or case studies. Thus the dates seldom coincide across the region to enable cross-sectional analysis of a single year. Also, no attempt has been made to study illegal wood flows with non-GMS countries. It may be safely assumed that illegal imports from outside the sub-region are small. The most notable neighbouring countries; the peninsular Malaysia, China and India are all wood deficit countries and likely do not export logs apart from marginal border trade.

As discussed in Chapter 2, the countries may be classified coarsely in two categories for the purpose of this analysis: wood industry countries – Thailand and Viet Nam (and Yunnan) – and forest production countries – Cambodia, Lao PDR, Myanmar. Only Thailand has some two-way trade of log/sawnwood imports and woodchip exports.

The wood trade studied includes logs and sawnwood; there is no inter-regional pulpwood trade. In terms of wood quantities, wood based panels are marginal products and more processed goods adhere to different dynamics from those of roundwood and sawnwood. Most of the traded sawnwood is in rough form and needs to be reprocessed in the country of destination, this is both to circumvent log export bans and to ease transport. There is little actual information about where illegally cut and traded wood is processed and in Table 5.1 logs and sawnwood are presented jointly in roundwood equivalent logs.

<table>
<thead>
<tr>
<th>Table 5.1: Woodflows in the GMS Region (rwe, 1000 m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Importer</td>
</tr>
<tr>
<td>Cambodia</td>
</tr>
<tr>
<td>Yunnan</td>
</tr>
</tbody>
</table>
6. Illegal Log Trade

6.1 Illegal Logging

Illegal logging has caused widespread concern in all the GMS countries as well as international observers and scholars in the region. Apart from Cambodia, thorough national analyses on the topic are lacking, not least due to the resources required to fully investigate illegal wood flows both within countries and abroad. This has been as made evident by the recent studies on the Cambodian logging scene. However, Cambodia is even in global terms, an extreme example of the lack of rule of law in forestry. Anyhow, any study on the exact volumes and directions of illegal wood and the shadow wood markets would require a deep dive into the world of regional corridor politics and warlords, backed up by ground observations and aerial reconnaissance.

Four types of illegal logging may be identified:

a. traditional collection of construction materials and fuelwood. This is observed in all countries and, depending on current legislation, may be technically illegal though silently accepted by many forest authorities.
b. semi-legal logging. Local community rights for subsistence logging are misused in commercial manner.
c. illegal commercial logging. This in turn may be divided into three categories
   1. poaching, i.e. illegal entry to cut trees not intended for logging,
   2. over cutting one’s quota. The logger has a right to log but not as much as is actually logged, and
   3. stealing from concessions. The trees are allowed to be logged but not by the party that actually logs.
d. obtaining logging licenses in corrupt or otherwise improper manner.

Unauthorized traditional wood utilisation seldom has an independent role in forest loss and may be seen as a deficiency in forest legislation rather than as a factor eroding the credibility of law and law enforcement. Household use is in volume terms large but utilises smaller dimensions than commercial logging and a wider selection of species. Generally, forests are not cleared by the activity though household utilisation may have a notable impact in areas where only small areas of forest are left. On the other hand a much greater pressure by rural populations is created by land clearing for agricultural purposes or shifting cultivation.

In the GMS countries different approaches have been used to resolve the issue of local community access to the forest; the rural population has access to state forests only in Myanmar (free access) and Lao PDR (licenses issued freely). However, there are cases where these rights have been misused to benefit local wood processing industries. In other countries there are more limitations and the forest legislation does not reflect the existing realities and has led either to local conflicts or lack of respect for law. In Thailand and recently in Yunnan the situation has been worsened by total logging bans: the forest authorities should stop all logging and thus may not direct the local communities towards sustainable management and utilisation of the forests.

The illegal commercial logging (categories c and d above) is a less inoffensive phenomenon and constitutes a bulk of removals in all the countries. The share of illegal logging and the main pattern of the logging is presented in Table 6.1.

<table>
<thead>
<tr>
<th>Country</th>
<th>Volume</th>
<th>Share of total commercial logging</th>
<th>Pattern (see classification above)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lao PDR</td>
<td>15</td>
<td>190</td>
<td>295</td>
</tr>
<tr>
<td>Myanmar</td>
<td>203</td>
<td>176</td>
<td>651</td>
</tr>
<tr>
<td>Thailand</td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Viet Nam</td>
<td></td>
<td>3 800</td>
<td>100</td>
</tr>
<tr>
<td>Outside</td>
<td>3 800</td>
<td>100</td>
<td>3 900</td>
</tr>
<tr>
<td>Total</td>
<td>0</td>
<td>218</td>
<td>20</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Country</th>
<th>Volume</th>
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<td>203</td>
<td>176</td>
<td>651</td>
</tr>
<tr>
<td>Thailand</td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Viet Nam</td>
<td></td>
<td>3 800</td>
<td>100</td>
</tr>
<tr>
<td>Outside</td>
<td>3 800</td>
<td>100</td>
<td>3 900</td>
</tr>
<tr>
<td>Total</td>
<td>0</td>
<td>218</td>
<td>20</td>
</tr>
</tbody>
</table>

Italics refer to likely trade and its magnitude with little evidence
Source: consultant estimates
In illegal logging two countries are in a league of their own: Cambodia and Thailand, and in both countries the sustainability of forestry is not guaranteed with current logging volumes. The lowest levels of illegal logging are observed in countries that are the most dependent on forests in their production structure and exports. These countries also have strong public enterprises dealing with logging; they have become even more powerful than the actual forest departments and some critics claim that they do not have to cut illegally, they are allowed to cut legally what ever amounts they need.

The undesirable impacts of the illegal logging problem may roughly be categorised in three types of impact:

a. **forest management and sustainability of forestry** (including logging in watershed and protected areas)
   This obviously is not unique to illegal logging, also legal logging may be unsustainable and cause environmental degradation. However, illegal loggers find most attractive sites where there is no interference from legal operators and these can be found in areas set aside from legal logging. Additionally, no guidelines for low impact logging or regeneration are respected and thus the environmental load is greater; on the other hand, illegal commercial logging (particularly poaching, c.1., stealing from concessions, c.3.) concentrates on valuable commercial species and log sizes making the average removals/ha low though destructive.

b. **fiscal complications**
   The governments do not get revenue from illegally removed logs. In forested countries forest royalties form a major source of government funding and any diversion to other coffins drain the national budgets of important financing. Particularly in Cambodia the armed forces have financed its activities by log financed parallel budgets, i.e. it has sold logging rights to its finance operations. This should be discontinued; all government sectors should have equal access to public finances. Corruption in logging rights allocation indicates directly that the stumpage royalties actually paid are below the economical value of the good as there is a surplus to be divided with dishonest officials.

c. **respect of law**
   Societies, and use of natural resources, should under ideal circumstances be based on the rule of law, accountability of officials and transparency. This aspect makes the household wood utilisation different from commercial logging; based on customary law it may fully accepted though against written, formal laws. There are cases when this discrepancy has been used to rationalise illegal logging by insurgency movements: laws are not legitimate as they are dictated by unacceptable regimes. Respect of law is the essence in condemning corrupt practises in the granting logging rights; this is wrong per se; additionally there is inefficient resource allocation and low stumpage levels as results of corruption.

### 6.2 Illegal Trade

Like in illegal domestic logging, illegal wood trade has two main segments:

a. **traditional border trade between local communities.** This consists mainly of household wood or lower value domestic market logs.

b. **commercial trade.** This in turn may be categorised in two types:
   1. administrative shortcuts, *i.e.* legally obtained wood is exported to avoid excessive export red tape, export quotas, export/import duties, export bans and monopolies, *etc.*
   2. trade in illegal wood.
Categories a. and b.1. are mostly results of inappropriate legislation while b.2. is directly linked to illegal logging. Thus free market advocates may argue that illegal trade in otherwise legitimate goods like logs cannot be wrong, it clearly demonstrates that legislation is not geared towards the most efficient log allocation and the main concern should be in suppressing illegal logging, not illegal trade.

Official policies have often made legal private trade, particularly in roundwood, an uphill battle indirectly leading to illegal export illegally. However, illegal trade is a phenomenon that should be fought against.

6.3 Recommendations

Legislation concerning household use of wood should encourage sustainable use of the resource and a sense of ownership by the local communities. Bona fide household use should be legal, though monitored by local forest authorities or customary administration. This monitoring should take place more by means of extension than law enforcement in order to create a sense of mutual trust between foresters and communities.

Alleviation – not to mention eradication – of illegal commercial logging and trade must be based on the will of the authorities to curtail it and independent, transparent and efficient judicature that is able to process logging cases even if high ranking officials are involved. This has not always been the case; the Cambodian authorities have allegedly been involved in the illegal logging and it has also been widely alleged that the Vietnamese officials have chosen to ensure wood supply to their wood industries also from foreign countries. Also Thai officials have previously quietly supported imports of illegally cut wood from Cambodia. It appears that some governments have initiated less than transparent deforest-thy-neighbour-policies in order to both eat and save the cake; promote domestic wood processing industries while trying to maintain and expand domestic forest resource by reducing, and even banning natural forest logging.

The activities required to reduce illegal trade are both a) domestic and b) regional. The two levels have notable overlapping elements and the impact of domestic actions may be greatly strengthened by regional co-operation and vice versa, regional work is futile without domestic law enforcement and capacity building.

Domestic actions

1. A prerequisite in a successful campaign against illegal logging is to analyse the pattern, structure and volume of illegal logging. A distinction needs to be made between traditionally legitimate household logging and commercial logging. It should be considered if the former could be legalised under sustainable management and co-operation between the communities and forest authorities. This would specify the remaining illegal logging as criminal stealing of common property rather than "harmless logging by the villagers”.

2. Control during the whole chain-of-custody should be reinforced; pure forest based operations are required but not adequate in themselves. There is little chance of controlling the whole forest estate effectively without involving local communities in the management through joint management arrangements. This would not only increase control but also provide income other than illegal logging wages and increase the sense of ownership of the resource among the rural populace. It would also introduce self interest in protecting the forest. Centrally managed top-down forest management systems always lack staffing in field monitoring and log control. In joint forest management local communities are given a stake in the forests. By making the communities and their members owners of the logging rights and respective revenues their interest in the monitoring activities carried out is increased manifold. If the villagers have no stake in the forest utilisation they actually benefit from illegal logging; the loggers may employ locals, and once large trees are removed the forests are more easily encroached for agriculture. Once the revenue flow from legal utilisation reaches the communities, outside loggers are not only stealing from the state but also from the villagers themselves and this should provide the initiative to prevent unauthorised entry to the forests. This naturally requires that all illegal logging be reported and stopped, even if it is implemented by powerful civilian or military groups.

3. All traders and users of natural forests need to be registered; this is not to say licenses would be needed, only registration, and trade by non-registered parties would be a punishable offence, and wood processing mills would have to be required to keep thorough records of all production and raw material use and sources of supply. These records should be distributed to authorities; wood trade records to forest authorities and production statistics to industrial authorities. Purchase of raw material from non-registered suppliers would be an offence for both parties.
This information would be entered into a national computerised log tracking system following all wood flows. The network should cover all stages of wood flow making it impossible to recycle documents; once a given batch has reached market in the capital city the same identification may not be used in the production areas.

4. Many sectors of the GMS societies have previously been plagued with corruption and receipt of operational permits against informal facilitation fees. Modern information technology (IT) provides means to analyse large quantities of data, and cross link raw material and production data so as to compare it with feasible raw material consumption. All this may be done with the use of IT, though it should be done anonymously and in any part of the country with no direct contact between the controlling authorities and entrepreneurs. Chains of cross linked production and purchase records would reveal anomalies and discourage illegal trade. Such network would also replace the need for resource consuming chain-of-custody control of individual logs and additionally provide information for the proposed forest information system. The system would naturally also require field observations by trained law enforcement officials controlling both forest operations and processing units.

Regional Actions

1. All GMS countries need to make a strong commitment to eradicate illegal logging in the region. Naturally, governments do not have jurisdiction in neighbouring countries but they are in a position to prohibit entry of illegally cut logs in to their domestic markets. The national governments should see this a common interest, even at the expense of domestic wood processing industries. The credibility of national policies will severely be handicapped if neighbouring countries allow, not to mention encourage, imports of illegal logs. It needs to be realised that unauthorised logging is criminal and if the governments of the importing countries allow such activity they should be subject to counteractions; the situation could be compared to the international fight against money laundering.

2. The individual GMS countries will have to have national log tracking systems and national information needs to be combined to form a regional wood trade information network; all shipments need to have "clearing" from the national system – including technical specifications and information on the trading partners – before they may be entered into the domestic tracking system of the importing country. The regional system would be the interface between the national systems and therefore there needs to be a common approach in the national information systems in terms of nomenclature, units of measure, etc. Once the exporting country’s system "recognises" the shipment it may be entered into the system of the importing country.

3. The systems need to be national, there is no need to establish regional bodies to implement the statistical log tracking systems. However, a technical secretariat needs to be nominated to record the standards and technically maintain the information gateway between the national systems. The secretariat could be located in the forest administration in one of the GMS countries. Another option would be to make it part of the Mekong River Commission or some other existing regional body.

7. Demand–Supply-balance

The GMS has occasionally been seen as single trading bloc, trading with the outside world as one. This is, however, far from the truth; all countries have their own national agendas, trading patterns and industrial strategies. Naturally, there are common factors which are often familiar to all developing countries: urban–rural-conflict, land tenure issues, inappropriate administrative structures, to name a few.

Correspondingly, analysis of regional demand–supply-balance may be seen as inapplicable while each country is in charge of its own forest policy and respective actions to overcome possible shortcomings in wood supply strategies. The general situation is, however, that none of the countries have excessive capacity in wood production, and in individual countries the situation is:

a. excessive over logging
   Cambodia

b. forest industries not supplied from domestic resources
   Thailand, Viet Nam

c. basically sustainable commercial forestry
   Laos, Myanmar
One of the main questions in regional demand–supply analysis has been whether national balances should be aimed at, and how it should be defined, \( i.e. \) is the interboundary trade in roundwood \( \text{per se} \) harmful and should all raw materials be processed domestically. All the GMS countries have some degree of limitation in log trade ranging from log export bans to export monopolies and domestic sale quotas. There is strong empirical evidence to suggest that domestic processing drives have led to low efficiency in wood processing industries due to lack of competition for the raw material.

In countries with wood processing capacity higher than wood production capacity it has been suggested that national, even state subsidised, plantation programmes should be established to ensure adequate domestic raw material supply to the industries. One of the factors supporting such plantation drives have been the external benefits provided by plantations in terms of watershed management, they act as a carbon sink, form erosion barriers, and provide other environmental benefits.

In the design of national reforestation schemes three different fields of reforestation/plantation establishment need to be identified:

i. industrial supply

ii. household wood supply

iii. protection and environmental plantations

In terms of a market oriented economy the first category should be left to the private sector to implement. In some national forest policies – both in industrial and developing countries – it has been seen as a state obligation to ensure raw material supply to the industries, even if it has not been financially viable. The state has been charged with a duty to ensure adequate commercial forest cover to supply the existing industries, and even to expand with demand. These demands have been motivated by analysing demand / supply and alleged imbalances; there have also been environmentally based motivations of biodiversity conservation, \( \text{etc.} \) This has also been criticised by comparing forest industries with other industries where no such state obligations exist.

In all the GMS countries a national level consultative processes on the role of the state in the forest sector needs to be initiated; what is the role of the state in the forests. Basically, the state needs to have only one role: to design forest policy and implement it through forest legislation. Forest policies should be based on sustainability: biological, social, productive, and externalities. All industrial concerns should be handled by the forest industry sector, there is nothing overwhelmingly noble in sawmilling to justify government assistance in terms of subsidised raw material supply.

Once the wood deficit has increased, wood prices tend to increase making plantations more attractive investments. This is naturally hampered by the long time horizon and risks involved with it in wood production. It may, however, be argued that there is little reason for the state to act as a wood-producer-of-last-resort purely to guarantee raw material to the industries and to carry all risks involved in plantation establishment. The market price mechanism should provide adequate information to direct plantations to the right places and species.

The environmental benefits related to forest cover need to be analysed separately from the industrial demand–supply-analysis. There is often a definite external benefit of expanding forest cover. These benefits may be through providing watershed functions or protecting biodiversity and they should be incorporated into the state investment portfolios. This provides a fruitful opportunity for state–private sector co-operation. The state may provide subsidies up to the amount needed to make a plantation establishment financially viable; once the needed subsidy is known it needs to be compared to other environmental investments by carrying out a feasibility study. Some countries have had lump sum subsidies for plantation establishment. These are economically too coarse and inefficient as there has been no analysis on the benefits accrued to the public good, they have more often been based on the misconception that forest cover \( \text{per se} \) is a public good, that a country is better off the higher the forest cover is. Public reforestation investments should be evaluated as environmental investments rather than productive investments.

In cases where commercial interests may be combined with environmental interest a joint implementation scheme may be appropriate. A particularly suitable case would be if part of under-utilised state land needs to be reforested and the enterprises are allowed to auction for the forest establishment right. The quotations may
also be negative, the smallest subsidy needed would gain the contract. The needed subsidy would then be compared to the estimated environmental benefit. For example, if the objective was for the forest to act as a carbon sink the unit cost of a ton of carbon would be compared to other means of carbon emission reduction. This kind of environmental investment are case and area specific.

Forests provide services: commercial and environmental; and all investments in forest establishment needs to be met with respective returns and all reforestation needs to go through appropriate investment analysis. There is international evidence, mainly from South America, that state sponsored plantations have not been viable after the first rotation. Therefore it may be argued that all purely commercial plantations should be managed and financed purely by the industrial/financial sector. The role of the government would be to guarantee an enabling environment for such investments by cutting red tape, providing under utilised state land (against applicable rent), providing advice, etc., this naturally applies to all production and service investments.

The policy decisions motivated by industrial demand–supply imbalance, including plantation establishment, should always be compared with other industrial sectors; would such interventions be applicable also in other sectors. Wood may be seen as a commodity that is being traded across borders and which seeks the most feasible place of industrial processing. However, state activity in household (mainly fuelwood) wood production may be justified on social grounds.

Sustainable village forestry provides a large variety of benefits to society; benefits well beyond the traditional outputs of forestry. In addition to meeting household wood demand village forests support agriculture, provide NTFPs and raw material to local wood processing, and support stable social and cultural systems. In the remote watershed areas forest cover has additional vital functions in soil and watershed conservation. Most of these benefits are non-monetary and thus are difficult, or impossible, to quantify in investment analysis.

In order to promote development of village/community forestry state–community-partnerships need to be built to jointly implement forest establishment in areas where local demand cannot be met sustainably. The local communities usually have excess labour part of the year but little formal, mainly financial, resources to invest in forest plantations. In order to ensure local commitment and a sense of ownership by local communities the local supply plantations need to be jointly implemented in contrast to top-down state implementation.

The role of the state would be to provide safe land tenure, technical know-how and some financial support. The community members would provide labour and some financial input. In designing the local contribution mechanism the communities need to be involved from the very beginning in selecting the sites and species, etc. The objective is to create a state assisted community plantation, not a community assisted state plantation. In areas where forest loss has been moderate and household wood supply sources are somewhat accessible the communities may fail to see benefits of plantation establishment or easily convert the plantations to agricultural lands. This is fully rational in view of the long gestation periods of even the fastest growing species.

8. International Trade Agreements

The GMS countries are participating both in regional and global trade arrangements aiming at reduction in tariffs and even at total free trade in the sub-region. Two schemes have been initiated that include most of the GMS countries:

i. **AFTA** (ASEAN Free Trade Area), members include all GMS countries apart from Yunnan (China). This is the ASEAN (Association of South-East Asian Nations) free trade arm that aims to increase trade within the ASEAN block. The latest member, Cambodia, joined in April 1999.

ii. **WTO** (World Trade Organisation) is the successor of the previous global trade organisation GATT (General Agreement on Trade and Tariffs). In being a global organisation its aims are less ambitious than those of the AFTA. Only two GMS countries are currently members of WTO: Thailand and Myanmar. The other countries are making preparations to submit applications to join the organisation.

8.1 ASEAN Free Trade Area

The objective of the AFTA is to lower (to 0-5%) tariffs between the member countries but not to harmonise economic and financial policies, or tariffs vis-à-vis third countries, as opposed to, e.g. European Union. There are also objectives to remove non-tariff barriers of trade in terms of quotas, licences and other quantitative restrictions and any other stipulations that may be seen as trade barriers.

AFTA is a typical low/modest integration economic union where the first phase is to create a preferential trade
area followed by a free trade area. In a preferential trade block member countries enjoy no worse terms than non-member states. A free trade area is a further development of a preferential trade area in that tariffs on goods from member states are removed [or made very low in the case of AFTA] while rates for non-member imports remain at higher, pre-agreement levels. This clearly creates discrimination against non-member states in the region and tends to promote intra-ASEAN trade.

Tariff reduction is to take place over a longer period of time, for the "original" six member countries (in the GMS only Thailand) the time period is 1993-2003 and for the new members respectively delayed ten year periods; Viet Nam 1996-2006, Lao PDR and Myanmar 1998-2008, and Cambodia likely 1999-2009.

8.2 World Trade Organisation

Integration in the World Trade Organisation is more modest than in the AFTA. The WTO principles are summarised in two objectives of the organisation: Most Favoured Nation (MFN) and National Treatment (NT). The MFN status indicates that all WTO members should be treated as well as any other member country and that the same tariffs and terms should apply for all members. The latter NT indicates that once a good has entered a market and all duties and taxes paid, foreign goods must not be discriminated against. For example, there should be no technical standards that discourage the use of imported wood products in construction to benefit domestic producers.

The MFN status is clearly in contrast to AFTA principles of promoting intra-ASEAN trade by means of lower tariffs for AFTA members. Regional free trade arrangements are, however, allowed in WTO by special stipulation as these are seen as tools in achieving to overall objectives of the organisation in promoting free trade.

8.3 Impact of Trade Liberalisation on Wood Flows

Roundwood trade has, as any raw material trade, globally enjoyed low effective tariff rates (i.e. tariffs actually paid; for example Lao PDR has high official rates for logs but only few log imports). The same applies to sawnwood as a semi-processed good; generally the experience is that tariff rates tend to increase in parallel to the degree of processing, this is to protect domestic industries against foreign competition.

In analysing the impact of AFTA on the wood trade three things need to be identified contributing to the trade pattern and its changes: a) the most important wood producing countries Lao PDR and Myanmar have joined AFTA only recently and are still in the early stages of adjusting their tariff structures, b) much of the trade is illegal and circumvents the official tariff collection entirely, and c) demand in sawnwood and logs is derived demand, total demand in logs is not effected by the price level of the commodity but rather the final product. Thus even increased prices do not always cut demand as would be assumed based on basic economics. In the longer term, a switch to other materials and more economic use of wood may take place curtailing demand. More notable impacts may be noted if the prices change at varying pace in the supplying countries, i.e. the competitiveness of a supplying country change vis-à-vis other country/ies.

The division of the GMS countries into forest production countries and wood industry countries is clear (c.f. Chapter 2), and the countries are not actually competing in wood trade, as a consequence the wood flows are generally one way; the importing countries have only marginal trade in the opposite direction.

Excluding Yunnan, after the inclusion of Lao PDR and Myanmar in AFTA most official wood trade in the GMS is intra-AFTA. Extra-GMS sources contribute some 40% of the total and most of that originates from Malaysia, a fellow AFTA country. Both in value and volume terms the most notable "outflow" is the Myanmar export to India. Also much of the illegal trade takes place within the AFTA region.

Thorough modelling of the pre vs. post-AFTA trade pattern would require national competitiveness and productivity analysis of each of the participating countries. However, it may safely be assumed, based on international experience and experience from other industries that overall changes in the volumes traded and the direction of trade caused by the reduction in tariffs will be modest. A likely scenario is that share of primary processed wood will increase at the expense unprocessed logs. Processing will take place in countries with the lowest production costs. The new members are lower cost producers compared to, e.g. Thailand and once the tariff rates for sawnwood approach those of logs, processing will gradually be transferred to the lower cost country.

However, this oversimplified analogy with other manufacturing industries may not be fully applicable in sawmilling and other wood industries. First, current processing capacity and its location dictate where
processing takes place and make changes slow and gradual. And secondly, recovery rates in sawmilling and plywood production range from 35-50%; i.e. 50-65% of the raw material is not included in the final product. The wood producing countries in the GMS have only small, if any, industries using the residues making their value equal to that of fuelwood. In the importing countries wood processing industries are more diverse and the residues have more valuable use, e.g. in particleboard production. Integrated wood industry units may, through better raw material productivity overcome their disadvantages in production factor pricing. This would slow the diversion of processing to the current log exporting countries.

Trade liberalisation under AFTA not only includes tariff reduction but also commitment to remove various non-tariff trade barriers. This may cause more changes to the trade pattern than the tariff reductions though it is not clear if this applies only to barriers of imports or whether export barriers also included. Log exporting countries have a large variety of export restrictions, both on volume and administrative arrangements. It is still to be seen if the importing countries view these as being against the AFTA agreements. A less restricted flow of logs would benefit the existing wood industries in the importing countries.

In global terms environmental aspects have gained more importance in the past years and have led to boycotts of tropical timber and calls for internationally recognised certification schemes. In the producing countries these requirements are often seen be based more on the business interest of temperate softwood producers rather than on genuine concern for the environment. The Asian market is not yet environmentally sensitive whereas in Europe and North America the situation is different. However, in the longer term the environmental concern is likely to spread also to the Asian market. Meeting sustainability requirements is also in the interest of producing countries: environmentally acceptable products have wider markets and are likely to attract a price premium.

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Itinerary of the Consultancy
| 1998 |  |
|------|  |
| June 1 | Arrival of Mr. Devenish (the Team Leader) in Vientiane  |
|       | Commencement of the Project  |
| July 30 | Arrival of Mr. Castrén (the international consultant) in Vientiane  |
| July 31- | Literature studies and visits to the six project countries  |
|       |  |
| 1999 |  |
| February 3-5 | Mid-Term Workshop  |
| March | Draft country reports  |
| April | Draft regional report  |
| June 8-9 | Final Workshop. Project ends  |