

CHAPTER THREE

TIMBER CONCESSION SYSTEM

3.1 INTRODUCTION

This chapter aims to analyse the Sarawak Government's mechanism for the management of its forest resources, that is, the timber logging concession system. It will examine the concession policy, the stated criteria for awarding timber licences and the design for implementation of the concession system. It will trace historical changes in government control over forest resources.

A forest concession system is expected to moderate and resolve conflicting interests, and its efficiency may be judged on the basis of equity. A well-designed concession system ensures minimum manipulation and rent seeking by parties with vested interests. This chapter will attempt to identify the parties, which have enjoyed the most direct and immediate benefits from the forest resources of Sarawak.

A good concession system maximises government rent capture, which can be deployed to ensure sustainable development. Thus, this chapter will look at the damage from logging, which jeopardises the conservation of Sarawak's forest resources for long-term development.

If the government were assumed to be a progressive equaliser through its social expenditures, the maximisation of government revenue from forest resources would be a criterion for evaluation of the concession system. Thus, this chapter will study Sarawak State Government's revenue from forestry.

3.2 EXPANSION OF STATE CONTROL UNDER THE COLONIAL ERA

Territorial expansion under the *Brookes*, from 7,700 square kilometres to 125,000 square kilometres between 1841 and 1905, endowed Sarawak with 92,000 square kilometres of tropical rainforest (HMSO, *The Colonial Office List*, 1963: 191, in Porritt, 1997:211). Overseas timber trade was recorded as early as 1807, with exports of belian timber to Hong Kong. The Borneo Company Limited invested heavily in timber before World War II. However, timber remained well below one per cent of total exports in the 1930s (Sutlive, 1980: 44; Longhurst, 1956: 54-6, 65-6, 93; Spurway, 1947). To regulate the use of timber, the Brookes introduced controls on timber felling in the First Division under Order No. XI in 1899, and extended control to the entire state under the Forest Rules, 1919 (*Sarawak Gazette*, 1 Jul 1899, p. 230; Smythies, 1961: 169). In 1919, the Forest Department was established with the intention to conserve and manage forest reserves "wisely and efficiently". Later, the Forest Reservation Order, 1920 was introduced to enable declaration of forest reserves to ensure supplies of timber and other forest produce. Licenses were required for felling and shifting cultivation in forest reserves, and local people were disallowed from taking timber or collecting natural produce from forest reserves for their own use. Because of such restrictions in the exercise of traditional rights within forest reserves, local populations started to protest against this policy. Subsequently, Order F-1 Forest, 1934, and the Forest Rules were introduced to give the government more legal control.

Until 1932, only 1.2 per cent of the total area of Sarawak was declared as forest reserves (Cramb, 1989; Smythies, 1961). By 1940, 5.5 per cent of the total land area was under the legal status of permanent forest, consisting of forest reserves and protected forests. Protected forests were constituted for the primary purpose of the

general protection of soils and waters, where the terrain or vegetation was such that intensive management of a productive forest was unlikely to be practicable, or in little-known territory where the appropriate use of land was yet to be determined. The law recognised broad rights of the people of Sarawak to take forest produce for their own domestic use, to hunt and to fish, and to pasture cattle in protected forests. In 1940, the government started to set aside forests for the use of communities. These forests were gazetted as communal forests and included in the category of permanent forest estates.

Before the war, the official policy was to ensure permanent maintenance of a sufficient area of forest to supply all the needs of the inhabitants, as well as to encourage the export of timber exceeding internal requirements and to maintain and increase the export of minor forest products (*Sarawak Gazette*, 1 Jul 1899; Smythies, 1961). In the late 1940s, the Forestry Department adopted a policy of issuing fifteen and twenty-year logging licences, frequently covering very large areas and sometimes including reserve forests. To encourage efficient recovery of timber, only large and reputable firms i.e. excluding natives, were given licences (Forest Department, 1950: 5). After World War II, swamp forests became an important asset. Timber exports (including of ramin) grew from 5,790 tonnes in 1947 to 39128 tonnes in 1949. By 1949, timber exports had grown to \$2 million, or 3.8 per cent of the state's exports (Forest Department, 1954: 1).

On 1 January 1954, a revised Forests Ordinance and associated Forest Rules, which reflected the growing importance of the timber trade, were introduced. Following recommendations of the Commonwealth Forest Conference, the government issued a policy statement on forestry on 23 December 1954. The new policy served to consolidate policies already in place. "It is the policy of the Government of Sarawak to reserve the forests for sound climatic and physical conditions, domestic and industrial

use as well as a maximum revenue and exports for the existing and future generations." (Forest Department, 1954). The policy was actively pursued and, during the 1950s, timber exports increased drastically in volume, value and as a proportion of total exports. In 1949, when mechanical logging was introduced in Sarawak, the situation changed rapidly. New machinery in the form of chainsaws, tractors and winches, allowed commercial exploitation of much less accessible upland forests in the interior. In 1950, 46,214 tonnes of timber, valued at \$2.8 million, or 2 per cent of the state's exports, were sold to, inter alia, Australia, Hong Kong and the United Kingdom. Pressure to exploit timber resources even extended to the 125 square kilometres of communal forests. Some timber companies gave drinks and money to the headmen concerned in return for logging permits to communal forests despite this being illegal.

By late 1950, ramin made up 52 per cent of all timber exports in addition to 23 other species. By 1960, nearly half of the state's ramin forest had been exploited. Cutting rates were reduced and the thirty-year felling cycle introduced in 1950 was doubled (*Sarawak Tribune*, 9 Dec 1961). However, the sixty-year cycle was estimated to be insufficient to maintain production at the 1960 level, or to provide licensees with adequate areas, and future reduction in output became unavoidable. Hence, in the peat swamp forests, sawmill licences exceeded the forest resources available and the issue of new licences ceased after 1960 (Forest Department, 1960).

In 1962, there were 78 licensed sawmills operating in Sarawak. Of this, Sarawak Chinese owned 74. In December 1961, a state assemblyman, John Meda, asked the colonial government to give natives timber working licences. The government responded by restating its policy of issuing licences to those having the necessary capital, knowledge and experience to work the forest efficiently. It would seem that the government apparatus favoured capital and entrepreneurship over equitable communal

ownership of the timber industry then. However, it should be noted that ownership was held by a small clique irrespective of race.

3.3 THE PRESENT CONCESSION SYSTEM

Under the Malaysian Constitution, forestry is under the jurisdiction of the state governments. The role of the Federal Government in forestry is confined to the functions of taxation, trade and industrial regulation, research, education and training, development of forest industries and specialist advice to the states. The National Forestry Act (1984), enacted on the basis of Article 76 of the Malaysian Constitution, provides a framework for forestry operations in the states so as to promote legal uniformity in forest administration, management and conservation. However, it applies to the state of Sarawak only if the Sarawak State Legislature adopts it.

All forestlands are owned by the state, which decides on the method of wood disposal. There are at least three main methods of log disposal in the state: -

- (a) outright sale of forests, including the timber on it, by the state to private individuals or corporations,
- (b) direct sale of all timber by the state or its agencies while retaining ownership and management rights over the land, and
- (c) granting timber-harvesting rights, where only standing trees are sold to private loggers, while the government retains ownership and management rights (Kumar, 1986:82).

In Sarawak, the principal method is to grant logging concessions, which falls under category (c) above. A logging concession is basically an exclusive right given to an individual, private company or corporation to log and/or manage a particular area for

a specified time under specific conditions. According to Sections 51 and 51A of the Sarawak Forest Ordinance (Chapter 126), the Minister of Forestry and Resource Planning has absolute power in issuing and retracting timber concessions. The only compensation for the cancellation/suspension of a licence is the capital expenditure incurred by the holder of the licence/permit in the execution of any works necessary under the licence/permit and other such claims as may be approved by the Minister. As seen earlier (Chapter One), the Minister's power to revoke concessions was provided by the 1987 amendments to the Sarawak Forest Ordinance, which pre-empted legal actions against the Taib government for cancelling timber concessions issued to Rahman Ya'akub's allies, a dissident group within the State Barisan Nasional. In fact, the licences were cancelled within months of the election, which re-established Chief Minister Taib's control after the dissidents' attempt to topple him. Taib froze the logging activities in 25 concessions in the State, covering 1.2 million hectares and worth an estimated RM22.5 billion, claiming that these concession had been given to friends and relatives of his political rival, Rahman Ya'akub, the former Chief Minister and Governor (SAM, 1987)

Given the Minister's power to grant access to forest wealth, it is not surprising that the State Government portfolio for forestry and resource planning has been coveted. Sarawak Chief Ministers have controlled the Minister of Forestry/Resources Portfolio since the formation of Malaysia in 1963. The first Chief Minister, Datuk Stephen Kalong Ningkan, who held office during the period 1963-66, appointed Teo Kui Seng as the Minister of Forestry. The second Chief Minister, Penghulu Tawi Sli, who held office during the period 1966-70, appointed Datuk Amar Abdul Taib Mahmud as the Minister of Agriculture and Forestry. However, the cabinet reshuffle of October 1967 saw Taib's forced resignation due to the demands of other assemblymen and the

appointment of Tajang Laing in his place. Nonetheless, Taib obtained a written guarantee that his policy on the freezing of timber licences would be implemented. This was achieved through signed agreements between the state and federal governments, and between the Federal Government and the UN Food and Agricultural Organisation (FAO). The written guarantee means that Taib's intentions on forest management were operative.

In 1970, Abdul Rahman Ya'akub was appointed the third Chief Minister of Sarawak. He awarded the Land and Mineral Resource portfolio, which included jurisdiction over forestry, to Simon Dembab Maja from his political party. Within a year of leading an expanded coalition government, Rahman Ya'akub had created and taken over the portfolio of the Minister of Forestry. In 1981, Taib, who is Rahman Ya'akub's nephew, was returned unopposed for the Sebandi State constituency by-election (*Sarawak Tribune*, 11 Mar 1991). Ten days later, Taib took over the Ministry of Land and Mineral Resources. Taib has been the Chief Minister since 1981 and has been the Minister of Forestry since 1985.

All Ministers of Forestry since 1966 have been from the Malay-Melanau elite and members of the main governing party, the Parti Bumiputra Bersatu (PBB). The power of the Minister of Forestry/Resources to dispense the forest wealth of the state explains the connections between equity capital holders of the major timber companies and the political parties/proxies discussed in the next chapter. Robinson has noted "the networks of political loyalties focused around personal attachment to individual leaders and dispensers of benefits, whose political fortunes decide the fate of a host of clients" in such situations (quoted in Colchester, 1992: 30).

It is an open secret that timber concessions in Sarawak are handed out to strengthen political allegiances or as rewards for favours. To what extent does the Chief

Minister of Sarawak have autonomy in handling state affairs in general as well as management of forest resource and resource rent distribution in particular? It was said that the government of the first Chief Minister, Datuk Stephen Kalong Ningkan did not last long due to interference from the Federal Government (Leigh, 1974). The national emergency, declared in Sarawak in 1966 by the late Prime Minister, Tunku Abdul Rahman Al-haj ended the Ningkan government. When Penghulu Tawi Sli was the second chief minister, ownership of offshore petroleum resources - over which the Malaysian Constitution was silent - came under the Federal Government as it defined the offshore continental shelf. Frictions between the third Chief Minister, Rahman Ya'akub, and the Federal Government were observed when the former demonstrated an independence of opinion that conflicted with the Federal Government's. Under the fourth chief minister, Abdul Taib Mahmud, the present State Government has arguably become the most autonomous among the Malaysian states. This is reflected by the presence of the United Malays National Organisation (UMNO), the dominant party in the ruling Barisan national coalition, in all states except Sarawak (Lim, 1997). Only the ownership of shares in Sarawak timber companies by Federal Government associates suggests political negotiations for and compromises over economic rents, as we shall see in the next chapter.

3.4 CRITERIA FOR AWARDING LICENCES

The system of licensing does not involve open tenders either. Applications to work a particular forest area as indicated by a base map, are submitted to the Ministry of Forestry. Depending on the area, the issued licence may be short term (less than 5 years), medium term (5-10 years) or long term (more than 10 years). Short-term licences are only issued for stateland forest, which are subject to conversion to

agricultural land after logging, which cannot be done to permanent forest estates or other protected areas such as national parks or wildlife sanctuaries. On the other hand, medium term and long term licences are issued for permanent forests. The licensing period is calculated from the ratio of the total operable area to coupe size, which is the area that can be worked within one year, i.e. about 2,500 - 3,000 hectares. Licences are neither saleable nor transferable. After the licence has expired, the Minister may either extend the licence or issue a new one. There are no general guidelines or rules on which this decision is based, and the Forest Department has, as it seems, no say in this matter (GTZ, 1992).

A particular piece of forestland for which a licence is issued is called a forest management unit. Concessions in the permanent forest estate, issued for the medium or long term, have to be managed according to a working plan, with a specified area to be felled annually. The working plans have to include road development as well as the size and species of trees to be felled. On statelands, felling plans similar to working plans are required, but with fewer restrictions. Both working plans and felling plans have to be submitted to the Department of Forestry for approval to ensure environmental protection.

Officially, the Department of Forestry lays down various conditions for the concession (see Table 3.1). However, the concession holder may sub-contract the fieldwork to a main contractor, usually one of the large (contractor) companies. The contractor deals with the Department. He pays taxes and royalties to the Department besides preparing the working plan or felling plan, as the case may be. He is held accountable to government agencies (GTZ, 1992: 29).

The concession holder frequently delegates the job of selling timber to the contractor too. The former usually receives either a percentage or a fixed sum based on

the value of the timber sold. This can be 5 to 10 per cent or RM15 per ton (approximately 1.8 cubic metres of hardwood) (INSAN, 1989:5).

Few concessionaires have the equipment or expertise to manage their holding well. Sub-contracting also relieves the concessionaire of the need to make capital investments. The concessionaire thus appears not to shoulder much financial risk. He frequently does nothing, yet gets a portion of the timber sales. The contractor shoulders the major costs, investing in plant and human power and finds buyers. The greatest part of the selling price of the timber may accrue to the contractor.

Table 3.1: Forest Department, Sarawak - Operations Process After Licence Approval

By Licensee	By Forest Department	Latest starting time before felling
<p>(A) General Planning Stage</p> <p>(i) Once the licence is issued, the licensee makes a General Harvesting Plan (GP) showing:-</p> <p>(a) Road network</p> <p>(b) Coupe layout</p> <p>for the whole licensed area on Land and Survey 1:50,000 original map sheets. Coupes shall be numbered in the order they will be logged.</p>	<p>Director of Forests (DF) checks GP submitted.</p>	<p>When licence is issued</p>
<p>(B) Operational Stage for Individual Coupe</p> <p>(i) (a) The licensee prepares large-scale topographic workmap of scale 1:10,000 or larger, and contour interval not exceeding 10 metres. The method used is by ground survey, photogrammetric mapping or direct enlargement from Land & Survey 1:25,000 map sheets. For management plan period of 10 years or less, the imposition of 10 metre contour interval may be waived.</p> <p>(b) Licensee does detailed planning of road network, block layout and main skid trails for the whole coupe on the large-scale topographic work map. Logging blocks shall follow natural features. Block size is about 50 to 100 ha.</p> <p>(ii) Licensee submits two copies of:-</p> <p>(a) 1:50,000 Land & Survey map sheet showing locality of coupe for which Permit to Enter Coupe (PEC) is applied.</p> <p>(b) 1:10,000 topographic workmap (DP) showing proposed road network and block layout</p>		<p>24 months</p>

(continued)

Table 3.1: Department of Forest, Sarawak - Operations Process After Licence Approval
(continuation)

By Licensee	By Forest Department	Latest starting time before felling
<p>(iii) Upon endorsement of operations 1-3 of the PEC, the licensee can commence on: -</p> <p>(a) Demarcation of coupe boundaries in red paint on trees at intervals of 3m or less. A proper survey of the coupe boundary will also be required.</p> <p>(b) Reconnaissance, alignment, and survey of the proposed road on the ground.</p>		
<p>(d) Preparation of plan on 1:10,000 topographic work map showing surveyed road alignments.</p> <p>(e) (d) Preparation of profile drawings for main and secondary road alignments together with design of finished formation level.</p>		16 months

(continued)

Table 3.1: Department of Forest, Sarawak - Operations Process After Licence Approval
(continuation)

By Licensee	By Forest Department	Latest starting time before felling
<p>(iv) Licensee submits two copies of topographic work map showing surveyed road alignments for the whole coupe, a set of road survey data and a copy of profile drawings to DF through State Forest Officer (SFO).</p> <p>(v) Upon endorsement of operation 4 of the PEC, the licensee can commence on road construction, demarcation of block boundaries and 10% tree enumeration for all logging blocks.</p>	<p>DF studies the survey data plan & profile drawings submitted and carries out checking of surveyed road location in the field before advising SFO on the endorsement of operation 4 of the PEC.</p> <p>Periodical checking by field staff of Forest Engineering Section to ensure roads are constructed according to the approved Detailed Harvesting Plan (DP).</p> <p>Field checking of 10% tree enumeration and some block boundaries, ground survey of all constructed roads will be carried out with the assistance of the licensee.</p>	12 months
<p>(vi) Upon completion of operation (v) above, the licensee applies to SFO for pre-felling inspection and the endorsement of operation 5 of the PEC (i.e. felling and extraction of timber).</p> <p>(vii) Commencement of logging operation.</p>	<p>Operation 5 of the PEC will be endorsed by the SFO only after ground survey and checking has been completed and the logging road approved for use by the Forest Department.</p> <p>Regular checking of logging operation.</p>	2 months

Several sub-contracting arrangements may take place, in which case, it can be assumed that the contractor and some sub-contractor gets a portion of the timber sales without much financial investment or contribution to management. In short, the contracting system appears to enable the extraction of rents with minimal effort.

3.5 MANAGEMENT AND CONSERVATION OF FOREST RESOURCES

For the purpose of management, the natural resources of Sarawak have been classified into three broad forest types, that is, Hill Mixed Dipterocarp Forests (HMDF), Peat Swamp Forests and Mangrove Forests. There are 6.9 million hectares of HMDF, representing 83.2 per cent of Sarawak's natural forests. Peat Swamp Forest totalled 1.2 million hectares, or 14.8 per cent of forestland, while Mangrove Forests came to 0.2 million hectares, or 2.0 per cent; 52.6 per cent or 4.4 million hectares of these forests have been gazetted as Permanent Forest Estate (PFE) and 47.4 per cent or 3.3 million hectares are Stateland (Table 3.2).

Hill Mixed Dipterocarp Forests (HMDF) is found on hilly and mountainous terrain up to the lower limits of montane forests. Moderate to steep slopes dominate in the HMDF and the slope gradient is usually the limiting factor for commercial exploitation. The HMDF are of high commercial value as they contain a number of economically important species. The most important are the *Genera Shorea*, *Dipterocarp*, *Hopea*, *Vatica* and *Dryobalanops*. They account for about 60 to 85 per cent of the local stem wood of commercial trees, and are exploited for good quality logs for export and local processing. Another very valuable timber species common in the HMDF is ironwood, locally known as belian (*Eusideroxylon zwagerii*). This species is reserved for domestic use only - its export is prohibited.

Table 3.2: Sarawak – Forest Type and Legal Status, 1996 ('000 hectares)

Forest Type	Permanent Forest Estate	Stateland
Hill Mixed Dipterocarp Forest	3,619	3,302
Peat Swamp Forest	720	508
Mangrove Forest	37	131
Total	4,376	3,941

Source: Department of Statistics, Malaysia, *Yearbook of Statistics, Sarawak, 1997*, Table 4.8

In general, HMDF is a rich resource, consisting of five canopy layers. The top layer is represented by big trees, which commonly stand isolated or emerge in a group above a continuous second layer. Under the second canopy is a third layer of trees, which sometimes merges into the main canopy. The fourth layer consists of woody treelets and the lowest is made up of forest-floor herbs and small seedlings.

The subtypes of the HMDF include the Kerangas or Heath Forests as well as forests on limestone hills and rocks. The Kerangas Forest is typically formed on leached sands and sandy soils (acid podsols). These soils are poor in nutrients, and therefore, Kerangas Forests are unproductive. They are usually logged only if there is sufficient harvestable timber. The forests on limestone hills and rocks are also considered unproductive and unexploitable because they grow on steep terrain and shallow soil.

The Mangrove Forests are mainly situated at the estuaries and along the banks of rivers and creeks, extending inland up to the limit of salinity, as well as newly formed mud flats along the coastlines. The forest is the main habitat for numerous

species of marine life. The coastal fishery, which provides much of the animal protein for the people, depends on these forests. The Mangrove Forest is economically important as a valuable source of firewood, charcoal, cutch for tannin and poles for piling. Nevertheless, the ecological value of the forest may even exceed the economic value.

The **Peat Swamp Forest** in Sarawak occurs in lowlands, inland, behind the mangrove forest. They are the most extensive and important of all swamp forests in Sarawak, covering the largest area of the peat swamps (80 per cent). They form a coastal belt up to 80 kilometres wide, divided and intersected by rivers, deltaic channels and streams draining the peat itself. They are periodically waterlogged by incoming rainwater. Peat Swamp Forest vegetation may be roughly divided into concentric rings. The outer ring is usually occupied by unevenly canopied high forest (Mixed Swamp Forest), with a complex mixture of species. Adjacent to it is the Alan Batu Forest, dominated by Alan Trees (*Shorea Albida*) of large size. This is followed by an even-canopied high forest known as Alan Bunga Forest, in which the Alan is the sole dominant species. Further towards the centre is a dense even-canopy of Alan known as Padang Alan Forest, sometimes mixed with a few other species with diameters often less than 60 centimetres. In the large inland peat swamp, the Padang Alan Forest may be followed by the dense pole-like Padang Paya Forest, with its low canopy and diameters generally less than 30 centimetres. Finally, in the central portion of the swamp, is an open, almost savanna-like forest, comprising stunted trees and patches of shrubs. It can be seen that the Peat Swamp Forest is characterised by a wide variety of species. These include the commercially very valuable *Ramin* (*Gonystylus bancanus*), *Jongkang* (*Dactylocladus stenogachys*), *Geronggan* (*Cratoxylum glaucum*), and the *Swamp Meranti* (*Shorea spp.*).

Man-made Forests include plantations of *Acacia mangium*, *Araucaria Cunninghamii*, *Gmerlin*, *Aborea*, *Swietenia Macrophyll* and the local species of *Shorea* species (*Engkabang*) and *Durion Zibethinus* (*Durian*). Plantation forestry is insignificant in Sarawak. From 1981 to 1990, only 5,932 hectares had been reforested with plantations.

Mixed Swamp Forests are extremely valuable forest resources and because of their location on the periphery of swamps, selective commercial logging was started in the 1950s. Today, most of the mixed Swamp Forest has been harvested and commercial logging is more concentrated on the Alan Forests, which evokes the fear of its depletion. While the official line is that everything is under control, and that the sustained yield policy is being followed, the facts suggest otherwise (Meyer, 1984). Peat swamp timber extraction was originally based on a 60-year cycle, with the forest recovering naturally. No intensive management system was applied and felling was selective. By the early 1970s, however, the cycle was reduced to 45 years. Few, if any, areas have passed through one full cycle and many forests were logged again after a much shorter recovery time. Contractors' opportunities to log later are not guaranteed under the concession system, and the commercial ramin and alan species grow too slowly for contractors to risk missing premature opportunities to harvest the trees.

In the case of hill dipterocarp forests, the British Authorities established an 80-year logging cycle in Sabah in the 1960s by extracting trees with a minimum 6-foot girth at breast height and using limited machinery. Against this benchmark, the Malayan Uniform System under a 25 to 30 year cycle applied to Sarawak in the early 1970s (Marn and Jonkers, 1980) left much to be desired. In fact, even a 55-year cycle is insufficient according to the Food and Agricultural Organisation (FAO), as evidenced by experiments in the Niah Forest Reserve. Typical stands cut and left without

silvicultural treatment would, after 55 years, yield four mature commercial trees per hectare. Apparently, an even longer period of waiting would be needed for a third economic crop (United Nations Development Programme/Food and Agricultural Organisation, 1981). Cassels, the General Manager of North Borneo Timbers, seems to agree. "It is crazy to think you can keep nice managed natural forest and rely on natural regeneration. It is a bunch of baloney because of population pressure for land and the pressure for cash" (cited in Scott, 1986:106).

The suggested alternative was the "liberal thinning" treatment, allowing 30 years for recovery (UNDP/FAO, 1981). By 1985, "liberal thinning" had been applied to only 29,000 hectares, or approximately one per cent of Sarawak's logged forest (Hong, 1987 and the Department of Forest, 1985). This was due to a combination of severe shortages of staff and resources in the Forest Department, as well as official lethargy. One example is the attitude of the Minister of Environment and Local Government for Sarawak, Datuk Amar James Wong, who also owned 100,000 hectares of timber concessions in Limbang. He said that logging is harvesting the forest and nothing more. He claimed that intensive management was unnecessary, commenting, "Nature is very resilient and five years after an area is logged, one would not be able to tell the difference between it and primary forest" (*The Star*, 5 September 1987).

3.6 ENVIRONMENTAL IMPACT AND DAMAGE

Despite the various regulations controlling logging operations, timber extraction is dominated by the economic considerations of the major players. As one State Assemblyman in Sarawak put it, "A man given a small concession of say 40,000 hectares, will take all the timber he can out of it. ... nobody gives a damn about regulations (James Massing cited in Mahony, 1985). Both contractors and

concessionaires want to work an area as fast as possible, the former because they have to pay off debts and sell the timber for a profit, the latter because their concessions may be revoked if they lose favour with certain politicians (see World Bank, 1992: 79). With these political and economic realities, there is little chance that timber extraction will be restrained. Damage to the forest has been accelerated with the introduction of mechanical logging. The use of bulldozers damages the remaining stands and the regenerative capacity of a logged-over forests, compared to the use of the bulls to transport from the peat swamps in the early days of logging. Trees were felled in the direction most convenient to the feller and were thus scattered at random. The tractor operator followed behind the feller, proceeding from log to log and skidding them one at a time, extending his skid as he followed the felling operation. Extending as they did from log to log, skid trails were usually long, steep and winding, sometimes completing full circles. Skidding might be slow; damage to both logs and the remaining stand was excessive. Trees in the remaining stand were destroyed as the tractors moved around searching for logs. Once a log was located, the tractor operator turned his machine as his assistant, the hookman then attached the cable. If this operation proved difficult from the original position, the tractor might be moved again to a better position or the log might be pushed to a better position. During this activity, more trees of the remaining stand might be destroyed or damaged. At times, the tractor might even completely circumnavigate the whole log, resulting in even resulting in even greater destruction. (Marn and Jonkers, 1980).

The Sarawak Department of Forest's own experimental sites confirmed the damage caused to the forest by timber extraction. In their Niah Forest Reserve, where only 7 trees per hectare were removed using "normal" extraction methods, 34 per cent of the land was totally cleared for skid tracks and road, while 45 per cent of the residual

trees were damaged. Given that many sites extracted 20 trees per hectare and a minimum of 7 trees per hectare, the extent of damage would be more than that for the department's experimental sites at Niah." (Hong, 1987)

During silvicultural treatment in logging operations in Sarawak, so-called uneconomic forest species are deliberately poisoned. This reduces the complexity and species diversity of the tropical forests to only 10 per cent of the original condition, resulting in the elimination of tree genetic resources and contamination of the environment (Sahabat Alam Malaysia, 1989, quoted in World Rainforest Movement and Forests Monitor Ltd, 1998:39). After logging, streams are left with a heavy bed load of sediment, which will continue to, downstream for many years. (ITTO, 1990:42). A longhouse resident from a tributary of the Rejang river said, "there will be no fish. The fish will come back sometime after the water clears." (personal communication). Said a researcher in the upper reaches of the Rejang river, "polluting is so bad, scoop water from the stream with a cup and you get a half cup of soil" (personal communication). By 1987, 59 per cent of Sarawak rivers were considered polluted and severe reductions in fish catches were reported by 57 longhouses along interior rivers (Ngau et al, 1987).

Without the forest cover to prevent surface run, comes the problems of peak floods during wet seasons. Deforestation and logging led to siltation and these have led to increased flooding in the Baram river basin; in 1979, 1981 and 1984, severe flooding cause widespread destruction to settlement, livestock and crops (Ngau et al, 1987:51). Herds of wild boars used to move from area to area in search of food in their natural habitat in the Kapit, Bintulu and Miri Division. One can see them crossing the rivers, and some longhouse residents will wait for the catch on the other side, for this is a rich source of protein. Evidently the indigenous peoples waited at certain localities – where the current flow is slow because the wild boars tend to cross the river at those localities.

As logging destroyed in these Divisions, wild boar population declined (personal account of researcher). Logging causes severe immediate forest disturbances, long-term habitat changes (damages to food trees), increased hunting by timber company workers and availability of logging roads as hunting routes. The destruction of wildlife from habitat loss must be recognised to be on an enormous scale (World Rainforest Movement and Forests Monitor Ltd, 1998:39). Data showed that 3809 kg of meat per 10 families was harvested from unlogged forests, compared with 1240 kg during the first decade after logging, 534 kg during the second decade and just 155 kg during the third decade. This is equivalent to a collapse in annual meat consumption per head from 54 kg to 2 kg from unlogged to logged areas. (Caldecott cited in World Rainforest Movement and Forests Monitor Ltd, 1998:33)

The loss of food and the pollution of water resources become silted and polluted, indigenous peoples are deprived of the most vital resource for survival – clean water. Streams and rivers provide the primary source of potable water. According to a research carried out by the Worldwide Fund for Nature, “the consequences of raised silt-load in rivers are far reaching. Upland streams, naturally clean, become turbid during spates and remain so for longer periods after the water level abates. Rural communities are deprived of sources of clean water and rural life suffers. In some of Sarawak’s areas, the river water is permanently turbid.” (World Rainforest Movement and Forests Monitor Ltd, 1998:34)

The 1990 ITTO Mission to Sarawak was commissioned to report on sustainable timber production and socio-economic aspects in so far as they “act adversely on the sustainability of the system” (ITTO, 1990: 46). Three critical factors for timber production were identified, namely: (i) the area available in perpetuity for production in the form of permanent forest estate, (ii) expected yield from these areas, and (iii) annual

increment in the residual (rate of trees left behind) after logging. The Report recommended a sustainable yield of 9.2 million cubic metres per annum based on: -

- (a) a PFE of 4.5 million hectares,
- (b) cutting only in areas with less than 60 degrees slope
- (c) a cutting cycle of 35 years
- (d) a yield of 18 cubic metres per hectare
- (e) logged over forests will be treated with "liberal thinning"

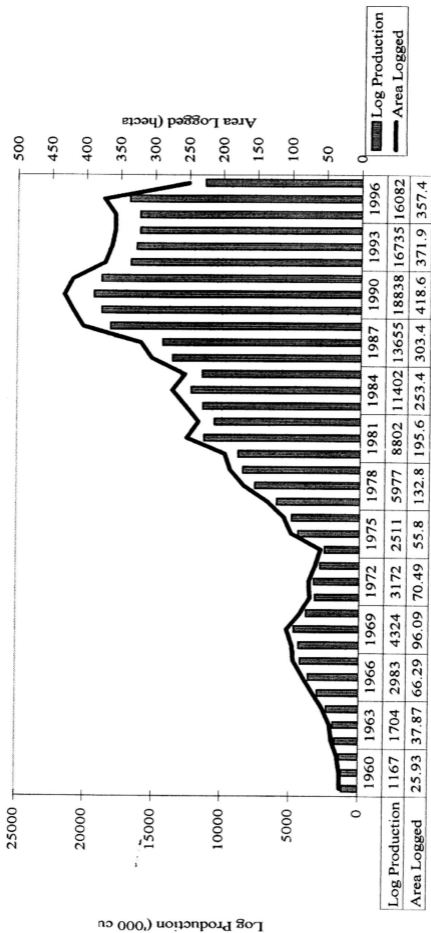
The Report held that existing stateland might be regazetted and incorporated into the PFE to give a total of 4.5 million hectares. The Report (p. 35) emphasised that their sustainable yield target "can never be attained" by continuing existing methods of harvesting, where there was excessive damage to residual trees and the environment. It is noteworthy that in 1990, 4.5 million hectares had been constituted as PFE. However, the PFE area has actually been declining, and was reduced to 4.4 million hectares in 1996 (Table 3.2).

The ITTO (1990) reported that untrained forest workers and inadequate staffing of the Forest Department, leading to insufficient supervision, caused much logging damage. It pointed out that there was no mention of protection for water-catchment. It considered the existing nine national parks and three wildlife sanctuaries as inadequate since not all important kinds of habitat, e.g. mangrove and peat swamps, have been included. The ITTO Report concludes that the "present policies, strategies and practices in respect to the timber production phase of forest utilisation and management are not economically sustainable." (ITTO,1990:58)

While about 4.3 million hectares were under concession in 1977, it reached about 6 million hectares in 1980 and 8.8 million in 1990. Figure 3.1 shows log

production and area logged in Sarawak in the period 1960-98. Since 1984, the area logged has exceeded a quarter million hectare per annum. There have been scarce improvements in logging practices since the studies of the eighties (see Table 3.3) and forestry will not recover to the optimum level of the eighties for years to come.

Figure 3.1: Sarawak - Log Production and Area Logged 1960-1998



Sources: Department of Statistics, Malaysia,
Yearbook of Statistics, Sarawak, various issues

3.7 GOVERNMENT REVENUE AND RENT CAPTURE

In Malaysia, government revenue from forest resources may take the form of forest revenue, export duties as well as income taxes on production and distribution of forest produce. Most of the revenues from forest resources in Sarawak are in the form of forest revenue, which go to the Sarawak State Government. Export duties on manufactures, which go to the federal coffers, have not been extended to Sarawak. Timber-related industries generated little value-added (RM1251 million in 1996) while tax evasion further reduces federal revenue from income tax on these industries. The domestic market is small and there is minimal tax on distribution, due to the Federal Government.

State revenue is of three broad categories, i.e. forest revenue, export duties and others. Forest revenue is derived from royalties, premia and fees. In accordance with Section 49(1) of the Forest Ordinance Chapter 126, only a licensee or a permit holder may take forest produce. The type of produce determines whether a licence or a permit is required. In general, a licence is required for the extraction of commercial timber while a permit is required for the extraction of other forest produce. The Director of Forests is empowered to call for tenders for the right to take forest produce, in which case royalties, premia and fees are payable. The rates of royalties as per the First Schedule of the Forest Ordinance differ, with species. They also differ for the same species taken from different regions. The longer the diameter of the pole, the higher the royalty. A round log costs less than a converted log. On the other hand, monthly charges are levied for taking forest produce under permits as per the Second Schedule of the Ordinance (Appendix 3).

Export duties are imposed on logs and timber products as well as other forest produce such as shingles, poles, cordwood, firewood, charcoal, illepe nut and fuel

wood. A 10 per cent export duty is imposed on all species of logs. A levy of RM0.60 per cubic metre is imposed on all species for the Forest Concession Area (Rehabilitation and Development) Fund, while a premium of RM0.80 per cubic metre is imposed for hill species for the Timber Cess (Native Premium). Other forest revenues include the timber development premium and timber grading fees.

Since royalties are charged only for harvested logs, royalties from damaged logs are foregone. Government rent capture from the forest in Sarawak has been low. The forest has stumpage value i.e. a resource rent. In a competitive free market, the stumpage value is the sales of harvested logs less the cost of felling and transporting logs from stump to buyer. The government determines the stumpage value when forests are publicly owned and held in trust by the government. In the absence of competition, the stumpage value is subjectively determined. The World Bank (1992) estimated two sets of stumpage value for logs harvested in Sarawak for the period 1966-89. One set was based on observed market prices and volume of logs. The second (higher) set was based on the estimation of actual log prices in view of under-invoicing and other devices used to evade taxes e.g. transfer pricing in exports to Japan. Rent capture, given by government revenue as a proportion of stumpage value, was 69 per cent for the unadjusted set of stumpage values and 35 per cent for the adjusted set. The balance of 65 per cent (100 per cent less rent capture) for the adjusted stumpage value was the windfall profit split amongst concessionaires, logging contractors and log buyers. Logging contractors appeared to have the largest share of such windfall profits. The windfall profit for the period 1966-89 was RM9 billions (World Bank, 1992).

Because of the huge windfalls, the price of getting logging contracts from concessionaires is high. Who gets the concessions? The practice of dealing out logging licences to state assemblymen has been common place over many years. As reported in

New Straits Times (12 April 1987), it has created a class of virtually instant millionaires, including nearly every state assemblyman from the ruling coalition over the years. Timber wealth has in turn shaped politicians' conduct and public policy and implementation. Because of the remoteness of many communities and their inaccessibility it is taken for granted that no politician can operate effectively without having a tremendous amount of financial resources to call upon. It has been estimated that a total of RM62 million has been spent in the 1987 state election, chasing 625,000 voters (*Asiaweek*, 21 April 1987). Timber wealth has contributed towards the victories of political candidates, who then used their positions to reinforce their control and to ensure retention of power. The cycle will be repeated until the timber wealth runs out and other resources have been exploited, or until the electorate rejects money politics and opts for other considerations in their choice of candidate.

3.7 CONCLUSION

The control of forest resources by the powers-that-be was extended from the time of the *Brookes* right up to the post-war (direct) colonial era. Licensing has been used as a form of control. Those empowered to award timber concessions determine access to Sarawak's forest wealth. In the post-colonial era, control has been vested with the Minister of Forestry or Resource Planning. Legislative changes, such as the 1987 amendment to the Forest Ordinance, reinforced the Minister's power when the government in power deemed it necessary, usually in response to the government's perceived political and economic interests.

The colonial government prioritised "economic efficiency" and favoured capital. In the post-colonial era, political allies of the ruling elites have extracted rents from forest resources. The chief ministers have always appointed the minister of

forestry/resource planning, and some chief ministers have even held the portfolio themselves.

The management of forest wealth has also been a subject of power negotiation. For instance, Taib obtained a written guarantee for the power to freeze timber licences in return for his resignation from the cabinet in 1967.

The mechanism of control over forest wealth included the system of sub-contracting. Concessionaires, contractors and sub-contractors who get shares of the proceeds from timber sales without capital investment and associated financial risks or even management efforts form networks of allies to ensure continuous ministerial patronage.

The requirements of working and felling plans for approval by the Forest Department was instituted for environmental protection. The contractors or sub-contractors are usually left to implement the plans. The Minister of Forest/Resource Planning, who has jurisdiction over the Forest Department, appears to prioritise rent extraction by allies over environmental and social considerations. The depletion of forest resources has been serious and its sustainability has been called in question. Official rent capture from the forest has also been low.