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Deregulation of Development Policies for Rattan Utilisation

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Rattan Utilisation

Deregulation of Development Policies for

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Contribution to a Workshop of the Natural Resources Management (EPIQ/NRM-2)
(Technical Cooperation between Department of Forestry -- Bappenas -- USAID) on
Reorientation of Forestry Policy to be Outcome-Based (*Reorientasi Kebijakan Kehutanan
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(Department of Forestry -- Bappenas -- USAID) on Deregulation of Development Policies for Rattan Utilisation
(*Deregulasi Kebijakan Pemanfaatan Rotan*), 20 November 1997

Deregulation of Development Policies for Rattan Utilisation²

Chris Bennett, Rick Barichello, Ali Hayat and Agung Nugraha

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1 Introduction

One of the fundamental constraints to sustainable forest management (SFM) in many parts of the world is a development policy regime which encourages deforestation. In Indonesia, this problem can be divided into three interrelated elements, forest resources undervalued by market restrictions and underestimation of ecological values, uncertainty of tenure which discourages the long range view of forest management necessary to achieve sustainability and a high-cost, overly-prescriptive and bureaucratic system of forest regulation (Bennett 1996). This paper analyses these three constraints as they apply to Indonesia's most important non-timber forest product, rattan, found in all the major non-plantation forested areas (see Table 1). It further suggests what lessons may be learned from this analysis regarding the forestry policy environment as a whole.

Few Indonesian commodities have aroused as much controversy over export policy as rattan. By a number of measures rattan export policies notably export bans in the mid-1980s on all except finished rattan products, appear to have achieved their avowed aims of raising export revenue and increasing manufacturing capacity. Rattan export value amounted to US\$335.6 million in 1996, averaging US\$336.7 over the five-year period to 1996. Exports consisted primarily of manufactured (finished) products, mostly as furniture. Over the last ten years the value, volume and unit value of rattan exports have increased while exports of raw and semi-finished exports have been phased out through export bans (replaced with prohibitive export taxes in 1992). Figures 1 and 2 illustrate this trend in terms of nominal volume and value, respectively. Indonesia's rattan industry is one of the country's top 15 non-oil and gas export products. During the early-mid 1980s period, before the export ban, exports were in the range of US\$75-100 million (US\$110-120 million in 1990 dollars) but by 1993 had more than doubled in real terms to US\$300 million (1990\$).

From the rattan export bans and investment restrictions of the mid-1980's to the reported supply problems of the mid-1990's, opinions have differed widely about the best approach for raising the value of rattan exports in a way which encourages industrial efficiency, provides appropriate benefits to small-scale producers and ensures sound ecosystem management for rattan habitats. Periodically teams from the Ministries Trade and Industry, of Finance and of Forestry as well as representatives from then National and Regional Assemblies have visited producing and processing areas to review the impact of rattan development policies not only on industry but also on small-scale producers.

While intense debate at the national level preceded the enforcement of export bans on raw and semi-finished rattan in the mid-1980's, the post-ban era has had more of a regional dimension. The sharp fall in prices for small-scale rattan planters and gatherers, which was caused by the

² Contribution to a Workshop of the Natural Resources Management (NRM-II) Project (Department of Forestry -- Bappenas -- USAID) on Deregulation of Development Policies for Rattan Utilisation (*Deregulasi Kebijakan Pemanfaatan Rotan*), 20 November 1997

export bans (Safran & Godoy 1993), persuaded the four Governors of Kalimantan in 1991 to make an uncharacteristically public case for relaxing export controls (Angkatan Bersenjata 1992a)) but to no avail

More recently, rattan manufacturers in East Java have complained about the restricted shipping of raw rattan from Central Sulawesi (Bisnis Indonesia 1995c) The industry has also complained of the burden of transport licences and levies (Bisnis Indonesia 1995b,e) Starting in the early 1990s, some rattan processors began to report significant difficulties in obtaining raw materials (Bisnis Indonesia 1995a) Domestic prices of large-diameter canes delivered to the rattan industry in Java rose sharply in 1995

Other problems seem to be besetting the sub-sector The furniture industry may be contracting and growth in exports of rattan furniture have slowed down (Figures 1 and 2) Actual exports are showing signs of falling below Repelita VI targets (Table 2) Meanwhile, international competition is said to be growing from competing producers such as China, including those countries that have increased their planting activities in response to the higher world prices caused by the Indonesian export bans Mogeia (1995) has noted plans for significant plantation development of rattan in Thailand and Malaysia is known to have established large rattan plantations Rattan substitutes such as bamboo mats from and synthetic look-alike canes have been noted

The rattan policy regime, like that for wood-based products, has in general been one of progressive regulation during a corresponding era of deregulation for other important export commodities Starting with the landmark deregulatory reform of inter-island trade (INPRES No 5 1984), export tariffs and investment barriers were gradually reduced (NRMP 1994), mandatory domestic marketing boards and levies for copra as well as for exports of nutmeg, cassiavera, and coffee were abolished

Meanwhile, to encourage the production of higher value-added local rattan products, raw and semi-finished rattan exports were banned foreign investment in the rattan processing was restricted and, regionally, Central and South East Sulawesi imposed restrictions on the shipping of rattan products and a mandatory marketing board for matting exports was established in South Kalimantan These regulatory counter-currents set within a government-proclaimed era of deregulation have in the past raised questions by economic observers and potential investors about how committed Indonesia is to a more competitive and efficient economy

Currently there are signs of two opposing rattan policy trends -- deregulation on the one hand and calls for increased government intervention on the other Some policy decisions have demonstrated a shift towards deregulation As of 1995 there are no more investment restrictions on rattan processing In December 1996, after dialogue between policy analysts and other representatives of the Ministry of Forestry Ministry of Trade and Industry Ministry of Finance and the Indonesian Association of Furniture Manufacturers, Asmindo, the effective export ban on webbing was lifted by the removal of its prohibitive export tax³ But some in the rattan furniture industry are calling for greater export regulation through quality control and a system of licenced exporters as well as domestic supply management Furthermore there are indications of greater rattan trade control at the regional level where the lessons of deregulation and debureaucratisation are less sympathetically received

To attempt to answer some of the policy issues mentioned above, the present study

³ Webbing was not listed in Decree No 666, 1996, about commodities subject to export taxes Raw and semi-finished rattan remain listed and therefore subject to (prohibitive) export taxes

was guided by three major objectives⁴

- (1) *To determine the economic, social and ecosystem management impacts of rattan trade regulation.*
- (2) *To suggest options for policy reform, incorporating estimates of outcomes associated with pursuing existing and modified or new policies*
- (3) *To identify potential lessons from the rattan policy experience applicable to the forestry sector*

⁴ For a more in-depth account of the rattan policy study conducted by the Natural Resources Management Project, see NRMP Report No 78, Volumes I, II and III

Table 1 Rattan-bearing Forests in Indonesia

Forest Function	Total Area 1994 (m ha) (1)	Area with Forest Cover 1994 (m ha) (2)	Rattan Growing System (Wild and Cultivated) 1997 (3)
Conservation (National Parks, Reserves)	18.8	15.8	- Wild Rattan
Protection (Watershed Protection)	30.7	24.9	- Predominantly Wild Rattan
Limited Production (& conservation)	31.3	25.3	- Pedominantly Wild Rattan
Production	33.0	26.4	- Wild Rattan - Cultivated Rattan
Conversion Forest (To non-forest status)	26.6	20.0	- Wild Rattan - Cultivated Rattan
Non-Forest	52.6	6.6	--
<u>Totals</u>	<u>193.0</u>	<u>119.0</u>	--

Source

(1) (2) National Forest Inventory Project, 1994 cit MoFr, draft IFAP (1996),
(3) Study estimate

Table 2 Achievement of Repelita VI Targets for Rattan Export Revenue, 1994/5 to 1998/99, US\$ millions

Repelita VI Targets and Actual Exports	94/95	95/96	96/97	97/98	98/99
Total Target	400	450	500	600	750
Finished Rattan (Not incl Furniture)	100	120	150	200	250
Furniture	300	330	350	400	500
Actual Total Exports	348.2	368.2	335.6		
<i>(% of Target)</i>	13%	18%	33%		
Finished Rattan (Not incl Furniture)	52.4	64.5	53.8		
<i>(% of Target)</i>	52%	54%	36%		
Actual Furniture Exports	295.8	302.5	281.8		
<i>(% of Target)</i>	99%	92%	81%		

Note

/a/ Source DoI (1995b)

/b/ Actual export figures are for calendar year

Figure 1 Volume of Rattan Exports, 1970-1996

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Figure 2 **Nominal Value of Rattan Exports, 1970-1996**

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2. Economic and Social Importance

2.1 Growth in Exports

Policy-makers' attention was increasingly drawn towards rattan following its rapid export growth in the 1970's (Figures 1 and 2). Since then the rattan trade has been viewed largely as a mechanism for generating export revenue and supporting development of value-added industries. Rattan and rattan products are Indonesia's most important non-timber forest product, accounting for 91% of export value in 1994. Although representing only a small share of non-oil/gas earnings, it is among the top 15 items in that category.

From 1971 to 1986 the volume of rattan exports grew at a compound annual rate of 26 percent in real value terms⁵. Then, for the seven years following the imposition of the export ban on raw rattan and the initial export tax on semi-processed rattan (1986 to 1993) total real rattan export value grew more slowly than before but still more than doubled over the period. What is concealed in these figures is the change in composition of exports. The vast majority of the early exports were in the form of raw and semi-processed rattan (100% of value in 1971, 82% in 1986). But with the subsequent export bans (later replaced by prohibitive export taxes) on these forms of rattan, their share of total export value fell to virtually zero by 1991 (see Figures 1 & 2).

2.2 Dominant Role in World Market

Indonesia accounts for a very large proportion of the world's raw rattan production, and a dominant share of rattan exports⁶. While exact numbers are unavailable because published data sources rarely reveal the rattan content of furniture and other finished products, it was claimed by knowledgeable trade observers that Indonesia's share in 1987 of the world market for rattan raw material was 70-90 percent.

Indonesia's market share has almost certainly fallen with the search for alternative sources of raw material supply, induced by the export bans and with the reduced supply of its own rattan on the world market. Nevertheless, it is clear that Indonesia remains the largest raw rattan source and rattan exporter (now exported primarily in the form of finished products) and that its share of raw rattan in world trade is plausibly in the range of 50-75 percent. A longstanding rattan furniture producer puts Indonesia's current share in the upper part of this range, 65-70 percent. Indonesia's actions therefore, still have a large impact on the world rattan market.

⁵ In 1967, rattan accounted for 20.69% of forest-based exports, falling to 1.08% in 1970 after forest timber concession system was established. In 1984, rattan's share had risen to 8.9% (Prahasto & Irawanti 1993).

⁶ Until World War II, before large-scale harvesting of primary forest, rattan was the most important forest product in many South East Asian countries (Godoy & Feaw 1989).

2.3 Stakeholders in Rattan Production and Trade

Rattan production and processing has involved a wide range of rural and urban groups for over one hundred years from planters to furniture makers⁷. Rattan production and trade has played an important employment and revenue role, particularly in Sumatra, Kalimantan and Sulawesi. Small- and medium-scale rattan processors are labour intensive.

Primary stakeholders in rattan resource management range from small-scale producers who either gather wild rattan from primary and secondary forest or cultivate small-diameter rattan as well as the cottage industry of mat-weavers in the outer islands, to export-based rattan furniture factories on Java. An example of the distribution of rattan smallholdings is given in Table 3. For some small-scale players in the rattan economy, rattan can represent the single most important source of income. Godoy & Feaw found that in the area of Dadahup, Central Kalimantan 95% of household income was from rattan for full-time farmers (483 out of 480 households), 75% for farmer merchants, 80% for farmer/transport operators (Godoy & Feaw 1991). Landless labourers have had a major stake in employment by small-scale producers, traders and processors.

Data on the numbers of different kinds of stakeholders do not always compare well across sources. Tambunan (1995) estimated that close to 70,000 were employed in rattan processing in 1993. Others claim double that figure. Assuming about 25,000 hectares of rattan cultivated by smallholders (see Appendix 5), their numbers will exceed 5,000 but, given the likelihood that large areas are missed by those who gather statistics, the number is probably much larger. Estimates of the numbers of people who gather wild rattan from the forest are particularly problematic. In 1983, there was said to be around 100,000 people involved in the rattan industry, some 17,000 of whom were in the handicraft industry (Silitonga *et al.* 1993). In later years, the wider rattan production and trade community with its support services expanded. The Governor of Kalimantan in 1992 spoke of 700,000, half the province's population, having some economic stake in rattan (Kompas 1992b).

⁷ Evidence of its role in cultural development is said to be the proverb which exhorts resourcefulness in the absence of a basic item like rattan, "*Tak ada rotan akar pun berguna*" (Angkatan Bersenjata 1992a)

Table 3 **Distribution of Rattan Land in Taratang Village, Kotawaringin Timur, Kalimantan Tengah, 1994**

Rattan Area (Ha)	Households	%
100 - 200	2	<1
50 - 100	8	2
10 - 50	40	8
5 - 10	250	50
<5	200	40

Notes

/a/ NRMP Survey

/b/ Village of 500 Households, each with rattan

3 Policy Development for Rattan Utilisation

Until the late 1970s, the rattan industry had developed in a largely unregulated environment. The goals of the subsequent series of trade regulations were to increase domestic value-added, increase foreign exchange earnings and employment, and a desire to exploit the country's perceived market power in rattan. The improvement of farm or harvester-level prices was effectively treated as a secondary goal.

In short, the objectives of rattan development policy have been to

- (1) *Raise the Value of Rattan Exports by Diverting Exports of Predominantly Raw and Semi-Finished Rattan to Finished Products Only*
- (2) *Contribute to Value-Added by Increasing the Quality of Rattan Exports*
- (3) *Raise Export Prices for Rattan Products by capitalising on Indonesia's Market Power*

- (4) *Development of the Finished Rattan Industry, especially the Furniture and Matting Industry off-Java (Outer Islands)*
- (5) *Generate Employment through Development of Finished Product Manufacturing*
- (6) *Facilitate Sustainability of the Rattan Resource*
 - a *Prevent over harvesting*
 - b *Eventually assure higher prices for primary producers*
 - c *Encourage rattan cultivation*

There have been both nationwide and regional policies to promote rattan production and trade, industry, namely,

NATIONWIDE POLICY INSTRUMENTS (1979 - 1992)

- *Effective Export Ban (Prohibitive Export Tax) of "Raw" and Semi-Finished Rattan*
- *Exports of Rattan Webbing Moved from the Finished to Semi-Finished Category, therefore Effectively Banned (Deregulated in 1996)*
- *Restrictions on Domestic and Foreign Investment in Rattan Processing and Manufacturing Industry (Abolished 1995)*
- *Subsidies for Domestic Furniture Producers*
- *Establishment of Domestic Business Licenses*
 - *Harvesting (HPHH Rotan)*
 - *Planting (HPH Tanam Rotan)*
 - *Transport (SAK-B and SAK-O)*
- *Establishment of Royalties (IHH)*

PROVINCE-LEVEL POLICY INSTRUMENTS 1988- 1995

- *Government-Approved Exporters and Marketing Board, Kalimantan Selatan*
 - *Restricted Entry into the Rattan Lampit Export Industry*
 - *Restricted Volume of Rattan Lampit Exports*
 - *Low Grades of Rattan Lampit Matting Excluded from Export*
- *Restrictions on Inter-Island Shipping of Rattan, Sulawesi Tengah and Sulawesi Selatan*
 - *Controlled Inter-island Shipments of Raw (Asalan) Rattan*

4 Rattan Export and Investment Bans

4.1 Rationale for the Export Bans

One of the overriding arguments for rattan trade policies was the perceived unfair gains enjoyed by foreign processors of raw and semi-finished rattan exported from Indonesia. A 1981 survey by the Department of Agriculture concluded that "the value of rattan re-exported by Hong Kong [was] seventeen times higher than the price of rattan exported from Indonesia" (Business News 1981 cit Safran & Godoy 1993). The Minister of Forestry said that "Indonesia's exports of

rattan were worth \$90 million last year. If this commodity is exported in the form of ready-made goods, the export value can be increased to around \$300-\$400 million" (Business News 1986b cit Safran & Godoy 1993). Similarly, there were varied estimates of the employment effects of the new policies, with the claims of increases in employment ranging from 75,000 to 160,000 new jobs (Business News 1986a cit Safran & Godoy 1993). One influential businessman maintained that the policies would create one million new jobs.

In 1979, the export of unwashed, un sulphured rattan was banned, and other raw canes were subject to a 20 percent export tax (Decree 492, 1979). In 1984, the DoT recommended a stepwise series of export restrictions that would culminate in export ban for raw rattan (DoT 1984). There was a lull in policy action until 1986 when a flurry of policy changes ensued. In October 1986, the export of all raw canes was banned, and semi-processed canes were subject to a 30 percent export tax (Decree No 274, 1986). At that time it was announced in advance that semi-processed cane exports were to be banned as of January 1, 1989. This ban was later moved forward to 01 July 1988 (Decree No 275, 1988). In addition, rattan webbing, an important commodity made primarily from cultivated rattan, was reclassified from being a finished product to being semi-finished one (Decree No 190, 1988) and was therefore also subject to the export ban. The formal rationale for this policy action was not clear. Webbing, albeit a furniture component, unlike typical semi-finished products like peel and core, required no further processing to be incorporated in furniture⁸ (see below).

The export ban on raw materials was abolished (Decree No 179, 1992) and immediately replaced by a price-based restriction in 1992 (Decree No 534, 1992), namely an export tax set at a prohibitive level. This put export policy in line with the GATT's Uruguay Round restrictions on trade policy, and allows modifications to the policy through changes in the export tax rate.

Prevention of exports is the major policy instrument in place whether through a ban on the export of raw and semi-processed rattan or its successor and largely equivalent policy, a prohibitive export tax (i.e., a tax rate so high that exports would not occur because they would be made prohibitively expensive). The purpose of the current export tax / effective ban is to create a wedge or difference between the local and foreign prices of raw and semi-processed rattan of the same quality, making local prices cheaper by the amount of the export tax. When the tax is high enough that no exports occur, the export tax is equivalent to a ban. It is not known beforehand exactly how much lower domestic prices will be compared to the foreign price.

Lower raw material costs were intended to give enough of a cost advantage to the Indonesian rattan furniture industry that it could expand production and exports. Since Indonesia supplied at least 70 percent of world rattan exports, the ban would create enough of a shortage and increase raw material costs to foreign buyers of rattan enough to drive resource-dependent foreign rattan furniture producers out of business. The resulting gap in the world market could then be filled at least in part by newly established and expanded Indonesian factories. The model for this strategy was the log export ban, which gave such an advantage to Indonesian plywood manufacturers.

If properly enforced, an export ban will lower raw material prices domestically. For example, if raw rattan materials account for 1/3 share of total costs, and if the price to foreigners is increased by 50 percent relative to Indonesia's domestic price, the cost advantage enjoyed by Indonesian producers is (a significant) 17 percent of total costs. If, however, this advantage is partially or completely offset by other costs which are higher to Indonesian firms, such as transportation or production inefficiencies, Indonesia will not be able to fill all markets left unfilled by the departure

⁸ Known in Europe since the nineteenth century, in many ways it was a hallmark of Indonesian rattan.

of foreign manufacturers

4.2 Rationale for Restrictions on Investment in Rattan Processing

Concerned that the influx of new rattan-processing businesses would result in perceived "unhealthy" competition, the government restricted entry into the sector in 1989⁹. It was argued that powerful foreign buyers play one Indonesian exporter off against other fellow exporters, driving the price as low as possible and that this is exacerbated by over-capacity in the industry. This argument is weakened, however, by the presence of many buyers of rattan goods and therefore many opportunities to accept or reject buying offers. Modern communications also allow sellers, even small companies, to obtain timely information about world price trends.

Rattan processing was included in the BKPM's "negative list" (Daftar Negatif Investasi, DNI), and this status was renewed in 1991, 1992, and 1993 (see Appendix 1). While under the restrictions of the negative list raw rattan processing was reserved for small-scale industry and small entrepreneurs, while semi-finished product processing and finished product manufacturing remained open for foreign and domestic investment but only outside Java. The most important restriction was that the production of finished rattan -- the growth industry among the different categories -- would be closed to new investment on Java.

The investment restriction on semi-processing was probably not very restrictive because most semi-processing activity already occurred near the source of the raw canes, i.e., off Java. The ban on new furniture investment, however, had the effect of reducing the competitiveness of furniture firms on Java. The policy provided an element of protection to existing furniture makers by reducing potential competition for raw materials and export markets. It exerted downward pressure on the price of raw rattan compared. Both the rattan sector as a whole and the Indonesian economy would have been better off without this restriction. Indeed, given the encouragement offered to furniture firms to enter this sector in the early years of the ban, and the consequent flood of new firms, it is ironic that this was followed up with a ban on new entrants. In 1995, rattan processing was removed from the negative investment list as part of Indonesia's deregulation programme.

4.3 Outcomes of the Export Bans and Investment Restrictions

A. Export Growth

Two features stand out in the behaviour of finished rattan exports over the past two decades. First, in general exports have been growing rapidly over the period. Looking at real export value in this category from 1975 to 1996, exports increased in all but two years. In addition to this strong underlying trend, there is clear evidence of the changes in rattan trade policies. One of the objectives of the 1986 raw export ban was to stimulate the production of higher valued rattan exports, particularly finished products, and this quite clearly has happened. Although there was a tripling of real export value in finished rattan in 1979-80 in apparent anticipation of a threatened export ban on the raw product, the increased quantities and values of this earlier period were dwarfed by the later response to the actual ban. Real values increased ten-fold from 1985 to 1988, and grew in excess of 50% per year from 1986 to 1988. By 1990, the boom was over, since then real finished exports have continued to grow but at more normal levels. The question of whether the downturn

⁹ Alleged "unhealthy" competition were used in the 1980s (until deregulation) to limit entry into the coffee, nutmeg, cinnamon, and pepper export industries.

in 1996 is indicative of a trend or normal variation within a maturing industry cannot yet be answered

Table 5 compares four periods, each of four years duration, which illustrate distinct phases of rattan export development, namely, stable growth preceding the ban from 1982 to 1985 the boom induced by the raw rattan ban boom from 1986 to 1989, the return to relative stability from 1990-93, and three years into the current four-year period (1994-1997) where growth may cease if not decline

The Furniture Boom The most publicized component of finished rattan exports is furniture (the others being matting and lampit, basketry and handicrafts) and it has been the driving force behind the growth described above. In fact, the growth of this sub-category has been more dramatic than even that of the aggregate "finished" rattan. From the first year for which furniture exports is available (1981), real exports grew at a compound annual rate of 73 percent. During the booming four years from 1985 to 1989, real export values more than doubled each year. This growth has stabilized in the last few years but the end result has been that furniture by 1995 accounted for over 90 percent of the finished rattan category compared to only 9 percent in 1985. Summarizing from Table 5, real furniture exports grew in the earlier period (1982-1985) at an annual rate of 73 percent, during the 1986-1989 period at 183 percent per year, and during 1990-1993 at 15 percent per year. The (incomplete) present four-year phase, however, indicates that the era of rapid growth for rattan furniture exports is over.

Furniture makers (virtually all of which are in Java) clearly have profited from the export ban policy, but their gains have been in part at the expense of raw material producers and semi-processors (mostly off-Java). Nowhere is this more striking than in Kalimantan, such as Kalimantan Tengah, where raw rattan price declines have apparently been as dramatic as 50 percent compared to pre-ban prices.

Steady Growth in Overall Rattan Export Value

Aggregating raw, semi-finished and finished rattan illustrates less erratic fluctuation in real value of exports than for the underlying components and less predictability *ex ante*. In general, exports have risen in real terms except during two periods. First, after the boom years of 1979-1980 in anticipation of a broader ban than was actually applied, exports fell for three years as can be seen in the raw exports column. (The influence of raw exports in the total is diminishing through this period but even in 1982 its share was still 53 percent.) The second period occurred under similar circumstances, during 1988-89 immediately following the ban on semi-finished exports and the rush in 1986-87-88 to export as much semi-finished rattan as possible in advance of the 1986-announced ban on this category. A second feature of total exports is that they grew at 16.6% per year from 1977 to 1985 before the full ban on raw exports, and 11.4% since 1986.

B Rattan-Processing Firms — Entry, Expansion and Employment

If the aggregate data are correct, an increase in the number of firms producing finished products, and an increase in both employment and investment in this sector, should both be observed. Only limited local data for brief periods were available to shed some light on these questions. On the number of firms, Asmindo¹⁰ noted from Department of Industry (DoI) data an

¹⁰ The Association of Indonesian Furniture Manufacturers and Handicraft Industry, Asmindo, was formed in 1988 (Asmindo 1992)

increase in firms from 95 in 1988 to 476 in 1990. Provincial DoI data for Sulawesi Tengah with a longer time series are available, and the data appear more variable. Small rattan firms in semi-finishing in Sulawesi Tengah apparently increased from 70 to 200 between 1985 and 1989, and stay roughly constant through 1991. Similar data for firms producing finished rattan show firms increasing by 15 percent from 1985 to 1987, by 36 percent in 1988, and with small further increases through 1991.

A sample of 33 rattan furniture firms in 1992 were interviewed by World Bank consultants (Berry and Levy 1992) with one-third of the firms in Surabaya and the rest in Jakarta. Of these, 7 entered in the 1970s, 6 entered in the 1980-86 period, and more than half entered during 1988 or 1989. Only 1 entered after 1989, probably reflecting the imposition of the negative list restriction on new investments.

Following this growth and the introduction of negative list restrictions, the number of firms seemed to stabilize. But in the last couple of years there have been a growing number of reports of firms in difficulty and leaving the industry. Field work indicated that with stable product prices and rising Indonesian costs, a number of firms are closing and the industry is now consolidating.

Tambunan (1995) has demonstrated the rapid rise in the number of rattan processing industries from 1988 to 1991, growing more steadily to 1993 (Table 7). Over the same period, however, processing industries have declined in numbers particularly in Kalimantan and Sulawesi. Table 9 shows the decline in the semi-finished processing industry in Central Kalimantan. One of the ironies here is that as the export bans and investment restrictions favoured Indonesian rattan manufacturers at the expense of foreign producers, so too did they favour Java-based processors over those in the outer islands. In other words, these policies favoured Indonesia, the country with the largest source of rattan in the world, but not the regions of Indonesia where most of that rattan is found (see Table 10).

Aggregate levels of employment (from the same DoI data as above) grew by 18 percent in 1989 over 1988, and a further 5 percent growth in 1990. The total increase in employment over the two years is reported as 36,000 persons. One observation is that the increases in rattan-based employment are much lower than the increase in exports. If this is accurate, expansion of the rattan finishing industry apparently occurs with less labour use than was previously the case.

When one examines regional data, one finds for Central Sulawesi a boom in the number of firms, investment, and employment in 1987 followed by slow and steady growth since then. Most specifically, there is no clear evidence of any post-1986 or 1987 decline in employment, the number of firms, or investment. In the Kabupaten of Kota Waringin Timur, Central Kalimantan, however, the boom was over by 1987 and since 1989 there has been an actual decline in the number of firms and employment in the rattan processing industry (see Table 9). According to Tambunan (1995) employment in rattan processing grew from 150,510 in 1988 to 189,164 in 1991 but fell three-fold by 1993 (Table 8). The decline was greatest in the outer islands.

Data on the growth in processing industries and employment is not always consistent. It does, nonetheless, seem to support the generally-held contention that by 1996 rattan industry was experiencing at least a "shakedown" after the boom years when the export bans, investment restrictions and subsidies (Tambunan 1995) encouraged excessive investment in processing, above all furniture-making. In any rapidly expanding industry there will come a time when increasing competition obliges the least efficient to leave the industry. What is less clear is whether more than this is happening. Is there a general industry *malaise*? Some manufacturers claim to be competitive and in good economic health, others warn of an impending wave of bankruptcies (Hallatu 1994,

Bisnis Indonesia 1994c, 1995a, 1995e), ascribing their difficulties to “unhealthy” competition and raw material supply constraints

Table 4 Real Values of Indonesian Rattan Exports, 1977-93 (1990 US\$)

Year	Raw Rattan Value	Finished Product Value	Furniture Value	Total Value	Total Value (Nominal US\$ millions) (6)	Total Volume ('000s of tons) (7)
(1)	(2)	(3)	(4)	(5)		
1977	24 165	2 708	0	28 401	17 106	75 089
1978	38 253	3 363	0	44 038	28 610	69 963
1979	96 259	9 520	0	111 880	78 954	103 921
1980	91 55	9 849	0	107 194	82 807	80 849
1981	58 756	5 098	0 297	86 524	72 923	68 074
1982	46 865	8 300	0 234	84 815	72 911	76 749
1983	49 272	9 519	1 052	99 448	86 601	82 476
1984	49 804	9 777	1 696	106 239	94 736	91 398
1985	71 205	12 981	1 202	111 116	98 580	80 886
1986	31 567	23 219	5 065	142 798	123 025	108 856
1987	0 635	67 642	16 85	239 54	211 737	143 427
1988	0	142 648	61 043	223 715	205 659	85 223
1989	0 477	162 298	114 558	164 083	158 381	47 519
1990	1 179	222 014	183 861	225 056	225 056	76 699
1991	0 118	277 270	224 731	277 725	275 281	87 362
1992	0 103	293 235	238 356	293 355	295 705	88 412
1993	0 031	331 179	280 882	331 248	335 571	102 51
1994	0 016	348 527	296 081	348 543	348 149	104 287
1995	0 01	361 372	296 879	361 382	368 192	103 672
1996	0 001	324 808	272 753	324 812	335 566	86 533

Note

/a/ Source: Biro Pusat Statistik, *Ekspor - Impor* 1977 - 1996, /b/ Columns (2) through (5) are in real 1990 US\$

Table 5 **Compound Annual Growth Rates of Rattan Exports, 1982-1996**
(Percentage annual changes in real US\$ (1990 base year))

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Table 6 Real and Nominal Unit Values of Indonesian Rattan Exports, 1977-93 (1990 US\$)

Year	Real Unit Values (US\$/kg)	Total Volume (000s of tons)
1977	0 38	75 089
1978	0 63	69 963
1979	1 08	103 921
1980	1 33	80 849
1981	1 27	68 074
1982	1 11	76 749
1983	1 21	82 476
1984	1 16	91 398
1985	1 24	89 886
1986	1 31	108 856
1987	1 67	143 427
1988	2 63	85 223
1989	3 45	47 519
1990	2 93	76 699
1991	3 18	87 362
1992	3 32	88 412
1993	3 23	102 51
1994	3 34	104 287
1995	3 49	103 672
1996	3 78	86 533

Notes /a/ Source Biro Pusat Statistik (BPS) *Ekspor - Impor*, 1977 - 1996,
 /b/ Column (2) is in real 1990 US\$ calculated from Table 4

Table 7 Growth in the Number of Rattan Processing Industries, 1988 - 1992

Region	1988	1991	1993	% Change 1988 to 1993
Sumatra	39	44	37	- 0.5
Java	203	281	290	+ 30.0
Kalimantan	73	77	39	- 46.6
Sulawesi	66	74	51	- 22.7
Total	381	476	417	+ 8.6

Notes

/a/ Source Adapted from Tambunan (1995)

Table 8 Growth in Employment in Rattan Processing Industries, 1988 - 1992

Region	1988	1991	1993	% Change 1988 to 1993
Sumatra	10,982	12,871	4,778	- 56.5
Java	104,568	139,939	51,999	- 50.3
Kalimantan	20,474	21,042	6,475	- 68.4
Sulawesi	14,468	15,312	4,525	- 68.7
Total	150,510	189,164	67,777	- 55.0

Notes /a/ Source Adapted from Tambunan (1995)

Table 9 **Semi-Finished Rattan Industry in Central Kalimantan, Before 1988 & in 1994**

Parameter	Pre-Ban (1989) (1)	Post-Ban (1994) (2)	% Change
Number of Active Companies	6	2	67
Employees	2 034	567 ^a	72
Employees per Factory	339	284 ^a	- 16
Capacity (tons/year)	10,046	3 926	61

Notes

/a/ Source (1) DoT (1992a) and NRMP (1994), (2) NRMP (1994)

/b/ Semi-finished Production of Cores and Peels

Table 10 **Rattan Production and Output of Finished-Rattan Industries by Region, 1992**

Region	Production Share (%)	Furniture Share (%)
Java	<1	81
Sumatra	10	6
Kalimantan	21	5
Sulawesi	69	4

Notes

/a/ Source Nasendi (1994a, Table 2 3), Nasendi (1995, Table 3 3) and Menon (1989a)

**Table 11 Domestic Investment
Approvals by *BKPM* in
Rattan Industry**

Year	Project Approvals	Number of Investors
1978	12	2
1979	0	0
1980	11	4
1981	4	3
1982	6	1
1983	30	8
1984	7	2
1985	17	6
1986	16	5
1987	53	17
1988	27	12
1989	14	8
1990	3	3
1991	4	2
1992	2	1

Note

/a/ Source BKPM 1994

Figure 3. Real Value of Rattan Export Commodities, 1980-1996

1

C Price Impacts on Harvesters, Collectors and Farmers

(i) Production and Trade of Small Diameter Canes in Central Kalimantan

Small-diameter canes make up the major component of rattan trade throughout Kalimantan¹¹ Most of the rattan canes are harvested from rattan agroforests planted by smallholder farmers, the largest areas being in Central Kalimantan (see Appendix 5) *Sega/Taman*¹² (*Calamus caesius*) an *Irit/Jahab* (*Calamus trachycoleus*) form the major group of traded rattans, though *Pulut Merah* and *Pulut Putih* (*Calamus* spp) have gained in importance in recent years in East Kalimantan *Pulut Merah* in particular is more favoured by furniture manufacturers making whicker-style furniture and becoming increasingly favoured by smallholder cultivators because it can be harvested earlier than the *Sega/Irit/Jahab* canes In November 1996, farmgate prices for one kilogramme of undried small-diameter dry canes in East Kalimantan were, Rp 300 for *Sega* Rp 1 000 for *Pulut Putih* and Rp 1,600 for *Pulut Putih*

Some canes are shipped from Kalimantan to Java for further processing Most are processed in Kalimantan for the production of rattan-webbing¹³ core and peel, mats and basketware The ban on exports of rattan webbing was a serious blow to the semi-processing industry Although there was demand in Java for its output of rattan core¹⁴ the profitability of such processing was reduced because the rattan peel used to make the core could not be made into webbing for export, only for webbing on the much lower-priced domestic market Demand for raw rattan fell after the export bans but did not recover Prices remained depressed It was this problem that prompted the four Governors' of Kalimantan in 1991¹⁵

The present study focused on rattan production and processing of webbing, core and peel in Central Kalimantan as well as the sources of supply which are smallholdings of cultivated rattan (see Table 3) From Ministry of Trade (MoT) data for middle level traders average price movements from 1986 to 1989 for six towns including Sampit were observed In addition Sampit buying prices from P T Sampit, a major processor in that centre, for the years 1991-1994, are reviewed The results are given in Table 12 below in thousands of Rupiah per ton, dry weight, raw rattan (*asalan*)

The early period data reach back only to 1986 when the rush had just begun to export as much semi-processed rattan as possible before the period of its ban was expected to begin (1989) Nevertheless the data show that 1989 prices in all but one case are below the level of 1986 and 1989 prices are generally ½ to ¾ of prices at the peak (1987) In Sampit, the data during the 1990s show no significant price changes after 1989 The average price over the 1991-1994 period

¹¹ Of the relatively small number of large-diameter canes, *Semambu* (*Calamus scipionum*) has become a favoured substitute for (the decreasingly available) *Manau* because of its superficial characteristics which some manufacturers find superior to *Manau* for their natural look (Haury 1996)

¹² *Taman* may in fact be *Calamus ruori* BL (see Appendix 4)

¹³ Webbing was the first rattan product to become well-known in Europe It was used in the crafting of some of the finest wood furniture of the nineteenth century and was to be found in many royal households (Fadali 1997)

¹⁴ In Kalimantan, webbing is produced in conjunction with peel and core Dried and sulphured cane is purchased from traders It may

¹⁵ The mood of the time about the need to help small-scale rattan harvesters in Kalimantan was well summarised in the statement, "Jika nanti keran ekspor [rotan asalan dan setengah jadi] bisa dibuka kembali, maka ekonomi rakyat dipedalaman mendapat angin segar" (Kompas 1992a)

is Rp 71,500/ton, slightly above the 1989 level. More importantly, the 1990s average price is roughly 5/6 of the 1986 price. Farmer-level prices show the same pattern for the 1986-1989 period.

These prices do not precisely match prices recalled by farmers, traders, and government officials. The match between these sources is improved if one interprets "before the ban" to be 1986, or 1986 and 1987, but some respondents maintained that the comparison was with the pre-1986 period. Although the data in Table 12 show 1994 prices above those in the 1989-1993 period, it was also commonly reported that 1994 prices were lower than those in the 1990-93 period. The consensus among farmers and traders was that prices, although fairly stable in the 1990s, are about half the level in the period preceding the ban (see Table 13).

Some aggregate data strongly corroborate reports of dramatic price declines following the export bans and even declines in comparison with the period before the price booms created by anticipation of the impending ban of semi-finished rattan. Data gathered by the Bupati's office, however, bear out the reports of farmers and small traders that prices halved after the period of the bans, particularly for wet rattan, the form of rattan most commonly sold by primary producers (Table 14). In real terms the price decline would be greater.

Rattan farmers and gatherers have experienced a decline in their rice-purchasing power. Figure 4.20, adapted from an illustration of price decline prepared by the Sustainable Forest Management Project in East Kalimantan (MoFr-GTZ), demonstrates the weakened purchasing power of Segar rattan in terms of rice and soap commodities. Appendix 6 of the present study gives the results of field interviews about rattan price comparisons with basic commodities such as rice. Purchasing power in terms of what one kilogramme of rattan could buy fell by over half, much more by some estimates. Respondents noted that the purchasing power of rattan fell with respect to weekly needs, Mecca pilgrimage funding, sugar as well as rice needs (Table 15).

Rattan cultivators reported reduced incomes as well as a reduced role for rattan as an income source. Table 16 illustrates this trend for the village of Tanjung Paku in Kotawaringin Timur, Central Kalimantan where most village members cultivated rattan in the mid-1980s. In the early 1980s, rattan planting expanded in this village. In 1985 only a relatively small area of rattan was ready for harvest but rattan already accounted for 13% of household income. In 1987, at the start of the rice boom period (just before the 1988 export ban on semi-finished rattan) the rattan share rose to 47%¹⁶. Rattan's share of income sources fell as did household incomes after the export ban (1989) and would have fallen further still if not for the employment opportunities offered by a nearby forestry concession (included in the "Others" category of Table 16). By 1994, the area of harvestable rattan was higher than it had ever been but rattan accounted for around 2% of household income.

In many areas both rattan cultivators and MoFr officials spoke of a shift in income-earning activities from rattan harvesting to working for illegal logging enterprises. In 1994, rattan smallholders in Terantang, near Sampit, Central Kalimantan, compared daily returns to their labour of Rp10,000 for rattan and Rp25,000 for illegal logging activities. To be sure, even without the export ban's effect on rattan prices, the rise in demand for illegal timber would have drawn rattan cultivators towards this activity but probably to a lesser degree. At the time of the field survey in 1994, it was estimated by villagers that in and around Terantang 50% of the illegal loggers were rattan cultivators, mostly those with the smallest rattan holdings. Table 17 shows the shift in importance away from rattan towards wood as a source of income for funding pilgrimages to Mecca in a village not far from Sampit. This proxy for village wealth also

¹⁶ Large numbers of villages undoubtedly suffered more economically than Tanjung Paku where rattan had played a larger role in the local economy. For example, during the mid-1980s, many villagers in Dadahup, Central Kalimantan, relied on rattan for most of their income (Godoy & Feaw 1991).

indicates a decline in the number of pilgrimages during the post-ban era.

In remoter areas, farm gate prices fell to the point where, by 1989, it was no longer profitable to harvest established rattan plots, e.g., in Tanjung Paku village, two days by boat from the nearest significant market for rattan (see Table 18). Interestingly, Godoy (1991) estimated that prices would have to fall by 50% from their 1988 levels [price boom period] to make rattan cultivation no longer profitable (Net Present Value, NPV=0). Prices fell much lower in Tanjung Paku. This was probably the case in most remote areas.

With declining profitability and volume of cultivated rattan trading channels changed. Figure 5.21 shows, first, that as the locations of harvestable wild rattan (*rotan alam*) receded and more cultivated, higher-quality rattan (*rotan kebun*) reached harvestable age farmers (*petani*) farmers, by 1987, were concentrating on their *kebun* (which were closer to the village). Rattan traders, traveling by river and by road, used to visit Tanjung Paku but from 1989 onwards during the price slump, farmers had to take their rattan produce themselves to Tumbang Manjul. Given the low returns to production many farmers chose to leave rattan for other more rewarding income-generating activities (see Table 16).

Available production data from the local MoFr office in Sampit covered only 1991-93 and shows that prices were variable across these three years but without trend. Port shipments are more revealing. For shipments out of Sampit, the major rattan port in Kalimantan Tengah, including exports (pre-1988) and inter-island domestic shipments for the period 1985-94 (partial), total shipments declined from 1985-87, boomed in 1988-89 then fell sharply (in half) to 1990. Shipments fell slightly over the 1990-1993 period. And 1985 shipments exceeded all of the 1990 observations. BPS shipment data for Kalimantan Tengah look quite suspect, being virtually zero until 1986, then increasing modestly to 1991. Finally, using Dinas Kehutanan data it would appear that there has been no clear change in rattan production from before the ban to after the ban. The average tonnage produced in Central Kalimantan from 1983/4 to 1985/6 was 7,318 tonnes, while the 1989/90 to 1992/3 average annual production was 7485 tonnes.

In conclusion data for Central Kalimantan are not entirely consistent across sources, and some sources appear quite suspect. It is clear that prices fell from their peak in 1987 to roughly $\frac{1}{2}$ to $\frac{2}{3}$ that level in the 1990s. Comparing the 1990s prices with 1986, there seems to be a modest decline in nominal prices. With inflation running at 8 to 9 percent per year (CPI and WPI respectively), a constant nominal price is equivalent to a significant (42 to 44 percent) real price fall over the 1986-93 (7 year) period. Farmers and traders argue strongly that prices now are much less ($\sim\frac{1}{2}$) compared with the pre-ban period, and their shipment data reflect this. If they are implicitly comparing their output price to the costs of their purchases (i.e. referring to their real prices), their observations are completely consistent with a modest decline in nominal prices. Official production and shipment data show some corroboration indicating a moderate decline in production in the 1990s compared with pre-ban years. In the 1990s, most sources show relatively flat production/shipping activity from 1990 to 1993, with apparent declines in 1994.

(ii) Production and Trade of Large Canes in Sulawesi Tengah

Unlike Kalimantan, most rattan canes traded in Sulawesi are large diameter, on average more than 2 centimetres in diameter¹⁷. Among the more commonly traded large-diameter canes are Batang (*Daemonorops robustus*), Tohiti (*Calamus inops*), Umbulu (*Calamus simplicissipus*) and Lambang (see Appendix 4). All large canes traded in Sulawesi are wild. They are harvested from both primary and secondary forest habitats. Some villages have

¹⁷ The formal definition of large and small-diameter canes sets the dividing line between the two sizes at 18 mm. Large canes are further divided into *favorit*, 28-34 cm, preferred by the Indonesian furniture industry, and *non-favorit* (Irawanti *et al.* 1993b).

maintained extractive reserves for rattan (and other non-timber products) for decades. Some canes like the cultivated canes of Kalimantan "cluster" and therefore can be repeatedly harvested, e.g., Batang, others are solitary and once harvested will not grow again, e.g., Tohiti and Umbulu (the issue of sustainable harvesting, particularly for solitary canes is covered in Section 7).

In respect of the outcome of the export ban/taxes, the Sulawesi situation differs from that in Kalimantan. The data are much less complete, but what there is accords well with farmer, trader, and processor impressions. The consensus is that there was a peak year in 1987 but that otherwise prices and shipments have remained relatively stable. No official statistics on price was available for the present study. A visit to an area south of Palu revealed that prices there had unlike in Kalimantan, indeed largely recovered. Table 19 indicates this trend for Oloboju village, though in real rupiahs the recovery in prices would not be so pronounced.

Using loading data from the ports, the pattern of shipments from 1982 to 1991 is a steady increase from 1982-1985, a modest decline in 1986 followed by the 1987 peak year, and a gradual decline from 1988 to 1991. Specific port data for Pantoloan shows a steady increase in shipments from 1990 to 1993. The 1993 level is back up to that of 1988. Partial production data for 1991-1993 also indicate growth in production for those three years.

In sum, the effect of the ban/tax in Sulawesi Tengah appears to be primarily the 1987 rush to beat the semi-processed export ban in 1988, but otherwise no major effects are clear. In any of the data, it is difficult to observe a notable decline in prices or production from the pre-ban period to the 1989-93 period. There were many reports from the field that 1994 production and exports to Surabaya were down considerably compared with 1993, but the 1994 data are still incomplete, and such a decline in any case applies only to one year.

Table 12 Middle Level Trader Prices for Raw Rattan in 6 towns, Central Kalimantan, 1986 - 1994 (Rupiah '000s/ ton, dry weight *asalan*)

Year	Sampit	Palangka Raya	Pangkalan	Kuala Kapuas	Buntok	Muara Teweh
1986	84.7	90	110	145	120	120
1987	100.0	150	120	169	117	125
1988	100.0	110	75	160	110.5	117.5
1989	65.0	95	60	132	66	79
1990	n a					
1991	70.7					
1992	67.9					
1993	70.0					
1994	77.5					

Note
/a/ Source BPS 1995

Table 13 Drop in Farmgate Prices of Rattan Associated with the Export Bans in Some Parts of Central Kalimantan, 1989-1994 /a/

Location in Central Kalimantan		Percentage Fall in Prices from Before the Price Boom Era to the Post-ban Era /b/
Dadahup	(1)	- 51.9
	-2	- 50.8
Terantang /c/		- 38.5
Sampit /c/	(1)	- 29.3
	-2	- 18.8
	-3	- 67.9
Tindik /c/		- 47.5
Tumbang Manjul /c/		- 60
Tumbang Kaburai /c/		- 40.6
Average /d/		- 40

Notes

/a/ Source - Appendix 7

/b/ Post-ban era = 1989 - 1994. Subsequent information indicated a similar price situation up until the end of 1996

/c/ Kabupaten Kotawaringin Timur

/d/ Average is not considered an estimate of the price drop for all Central Kalimantan, only for those sites visited during the study

Table 14 Nominal Farmgate Prices of Rattan, 1984 - 1993

Year	Wet Rattan Rp/kg	Dry Rattan (Rp/kg)
1984	450	750
1985	400	550
1986	450	1 100
1987	450	1,400
1988	300	1,150
1989	150	750
1990	125	700
1991	208	642
1992	290	700
1993	300	650

Notes /a/ Source Bupati Kotawarngin Timur (1994)

Table 15 **Fall in Purchasing Power of Rattan Associated with the Export Bans, Central Kalimantan, 1994 /a/**

Location	Item	Respondents' Estimates of Fall in Purchasing Power of Rattan /b/
Dadahup	Rice	2.8 - 6 x
	Sugar	6 x
Terantang	Weekly household needs	3 x
	Mecca pilgrimage	2.9 x

Notes

/a/ Source - Appendix 6

/b/ x = magnitude of decline e.g., 2 x = two-fold

Table 16

**Rattan Share of Annual Household Income (Rupiahs) in
Tanjung Paku Village, Central Kalimantan, 1985 - 1994 ^{/a/}**

Source of Income	1985	1987	1989	1994
Rattan	108 000	694 737	28 947	24,211
%	13 1	47 3	3 5	2 1
Tree Crop ^{/b/}	480 000	648,158	— 610,526	368,421
%	57 9	44 2	74 7	32 1
Livestock	217,000	54,474	76,579	201,053
%	26 1	3 7	9 4	17 6
Hunting	0	21,053	29,211	697 37
%	0	1 4	3 6	6 1
Other	25,000	49,737	72,632	483,153
%	3 0	3 4	8 9	42 1
Total	830,000	1,468,159	817,895	1,146 575

Notes

/a/ NRMP data from the 20 rattan farmers in the village in 1994 and 1995 surveys

/b/ Rubber, fruit trees

/c/ 1985 = before the price boom caused by anticipation of the export ban,

1987 = during the price boom, 1989 = the first full year of the ban, 1994 = time of field survey

Table 17 Pilgrimages to Mecca from Terantang Village, Kalimantan Tengah, 1983 - 1994

Villagers	1983	1988	1994
Number of Haji	8	10	4
Haji Type	'Rattan'	'Rattan'	'Wood'
% Major Sources of Household Income	Rattan 80% Wood 20%		Rattan 20% Wood 80%

Notes

/a/ NRMP Survey

/b/ Village of 500 Households each with rattan

Table 18 Profitability of Rattan Harvesting from Cultivated Plots in Tanjung Paku Village, Central Kalimantan, 1985 - 1994 ^{a/}

Year	Sale Price Rp/kg	Net Return Rp/kg	Net Return (%) ^{b/}
1985	400	60	15
1987	700	360	51
1989	200	(140)	(70)
1994	200	(140)	(70)

Notes

/a/ NRMP data from 20 rattan farmers in village

/b/ Assumes gross return less production costs (Rp150/kg) and transportation costs (Rp190/kg)

Table 19 Gatherer Prices of Rattan in Oloboju Village, Donggala, Central Sulawesi, Mid-1980s to 1994 /a/

Time Period	Gatherer's Sale Price (undried, Rp/kg)
Before the price boom leading up to the export bans, early to mid 1980s	150 - 180
Pre-ban price boom, c 1987	300
1989/90	180 - 200
1992	260
1993	340
1994	356

Notes

/a/ Source - Appendix 7 Information from a group of rattan gatherers

Figure, 4 **Nominal Prices of Rattan, Rice and Soap in East Kalimantan, 1984-1986**

1

Figure 5 **Reduction of Trading Channels from 1985 to 1995 for Rattan from Tanjung Paku, Central Kalimantan**

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5 Domestic and Export Supply Management

5.1 Domestic Supply Management

Domestic supply management of rattan raw materials has been attempted by government-approved agencies such as cooperatives and (*KUD*) and P T Sari Permindo, to improve on the open trade with its alleged shortcomings. Supply management schemes have frequently been relied upon as a means of shortening the marketing chain (perceived as too long, inefficient and unfair to primary producers) and of transferring the high margins of middlemen to producers in the form of higher prices. However, studies of various commodities in Indonesia have shown that marketing chains are in fact intricate networks of trading options operating with low margins, and providing many buying and selling options for a wide range of output quality typical of small-scale producers (Bennett & Hasan 1993).

KUD cooperatives have been designated as key players in domestic rattan harvesting and trade. All wild rattan is supposed to be gathered and traded through the KUD system (Decree Telex No 179, 1988). Administration of harvesting permits is the responsibility of both the Governor and local Ministry of Forestry officials (Decree No 208, 1989). The intention is to both conserve the rattan resource and to shorten marketing channels and thereby cut out middlemen. The harvesting licence is generally taken out in the name of a KUD. This is often a nominal exercise, the work being carried out by those who compensate the KUD accordingly.

For a brief period, raw material for furniture makers was procured through Asmindo's own agency, P T Sari Permindo Murni. These procurement activities now account for a small proportion (<10 percent) of raw material purchases, and furniture makers. After a brief period of attempted supply control, raw material supplies were left again to the open market.

A feature of the operation of this agency is a conditional purchase scheme for some types of rattan. For example, if a company wishes to purchase a unit of a preferred or *favorit* rattan, it must also purchase 2/3 units of a *non-favorit* type. This amounts to a tax on buyers of the preferred types, which is used to "subsidize" the sale of the non-preferred types. The result hurts everyone except the sellers of the non-preferred canes. It is the kind of negative policy that can occur when an agency or government department uses regulations to micro-manage an industry.

There is no reason why such an agency should be prevented from engaging in supply activities, as long as it is not being financed or subsidized by a general tax on the industry and as long as furniture makers are not required to use its services. In other words the agency should operate with actual and potential competition. It appears to be doing so at present. Any other arrangement would in effect represent an indirect tax on the industry and one that could reduce the international competitiveness of Indonesian rattan furniture firms.

In 1994 there was an unsuccessful attempt to designate a sole agent for rattan supply from Sulawesi to Java which was vigorously opposed by some members of Asmindo (Bisnis Indonesia 1994d). At least 5 Regional Offices (Komisariats) of Asmindo (Jakarta/Bogor/Bekasi/Tangerang and the Jabotabatek, Bandung, Cirebon, Surabaya and Sulawesi Tara) rejected a proposal by PT Mapalus Sulawesi Abadi (MSA) to manage supply. There were concerns that the actual outcome would be the creation of a monopoly which would harm more than it helped¹⁸.

The idea was for MSA to assist PT Sari Permindo which operates rattan terminals in

¹⁸ Increasingly, Asmindo's voice is being heard not only in support of greater rattan trade regulation (the Association was a strong supporter of the 1980s export and investment regulations) but also in warning about the dangers of domestically-managed rattan trade. Thus, Asmindo, Cirebon, has requested that the government intervene to remove the Governor's instruction (*Peraturan Daerah*) that restricts shipments of raw (*asalan*) rattan from Central Sulawesi to Java (Bisnis Indonesia 1994d). This sentiment has been echoed on various occasions by Asmindo, Suarabaya

Cirebon, Jakarta and Suarbaya MSA share's were owned by a few large enterprises and Sari Permindo MSA was to ensure supply and demand balance for rattan from Sulawesi to Java in a way which allowed price and quality to be checked

5.2 Effects of Export Market Management

Following the rationale for (past) restrictions on new investment in manufacturing to prevent "unhealthy" competition, the case has also been made for management of some rattan exports through a government-approved marketing agencies. The idea is to raise further the bargaining power of individual exporters when dealing with large foreign buyers, particularly when Indonesian exporters supply a large share of the world market.

Such mandatory agencies are said to improve quality, and therefore improve Indonesia's export image as a supplier of low-quality commodities. The opposite may occur however as misunderstandings arise because of the weakening of the close buyer-seller linkages essential to long-term trading relationships (e.g. witness the impact on coffee export system before deregulation of its export and marketing groups in 1990). In fact, the quality argument itself may be used spuriously by insiders of marketing agencies to gain control over fellow exporters who are also competitors, or simply to reduce supply (Bennett 1993).

(i) Humanitarian Rattan Exports

A small loophole for exports of raw and semi-finished rattan was left open to allow export of semi-finished rattan for humanitarian purposes, e.g., to make walking sticks for the blind. P.T. Sari Permindo was designated as the sole exporter of such semi-finished rattan (Decree Nos 102, 110, 248 & 283, 1989). Having only one official outlet for semi-finished rattan, it has presumably been easier to maintain export control of this otherwise export-banned commodity. Quantities of rattan being exported in this way (i.e., from 1989 onwards) are negligible (see Figures 1 & 2).

Although the exporter has been granted monopoly privileges for the export of semi-finished canes, the argument for pursuing reform of the marketing arrangement for humanitarian exports is less compelling than that for more significant impediments to rattan resource and industry development in Indonesia.

(ii) Approved Exporter and Marketing System for Rattan *Lampit*

The establishment of an approved exporter system with a joint marketing board for exports of rattan *Lampit* (a kind of finished-product mat) by government-approved exporters in South Kalimantan has proved more problematic. Unlike a similar and more successful marketing strategy to push up plywood prices, *Lampit* exports have faced reluctant buyers in Japan (primary market for *Lampit*) who had more access to substitutes, e.g., from China where bamboo has been used as a substitute for rattan. The export quota and approval system, including the elimination of exportable grades (products of cottage industry), reduced export volume, depressed the industry and resulted in the closure of small- and medium-scale industry while excluding entry by small firms.

The impacts on small-industry development and employment have been felt at both the provincial and kabupaten levels. Table 20 indicates the trend of falling numbers of *lampit* manufacturers, especially the smaller enterprises. This tendency is particularly pronounced in Amuntai, the heartland of the cottage industry for *lampit* production (Table 21). The proliferation of smaller enterprises from 1986 to 1989 with attendant higher employment was not sustained. This period had been notable for high value and output. Table 22 gives a conservative estimate of the reduction in the number of handicraft groups (made up of varying numbers of households) from before the establishment of the approved exporter system to 1994. The sharp reduction in

number from 435 to 20 in 1994 was said to be caused by the Asmindo-mandated ban on the export of low-quality *lampit* (see below) Not only did the number of exporters decline over this period, from 180 to 15 (there are even fewer active exporters) but so too did the number of approved foreign buyers, from 36 in 1989-1993 to 15 in 1994

Decree No 410 (1988) established the *lampit* export system to manage supply and conserve the rattan resource All rattan exports since then have been subject to control by the joint marketing board which, together with the Department of Trade and Industry, decides upon export quota allocation to approved exporters *ETLR* Various conditions for approval as an *ETLR*, established in Decree No 865, 1988, effectively eliminated small or new enterprises from the export industry, namely at least

- ▶ 2,500 m² of work space,
- ▶ Employment of 200 people and
- ▶ 30,000 m² of *lampit* exports in the previous year

Smaller companies were to be assisted by P T Racindo Nugraha, also an *ETLR*, designated for the task by Asmindo (Asmindo 1992) By most accounts, this alternative route has been little developed Asmindo, Kalimantan Selatan, lists approved buyers in Japan A fee of US\$2/m² is charged by Asmindo for each square metre of exports (Saragh 1997) The fee amounts to a 10-20% tax It disproportionately taxes lower-quality *Lampit*

A floor price mechanism was established to ensure high export prices but in recent years this has been circumvented by exporters who are repaid by buyers in Japan the difference between the floor price and the market price Therefore export statistics such as those in Table 23 may exaggerate value Volume statistics are more reliable Unit prices appear higher than they really are

One of the most dramatic effects of the export regime was Asmindo's decision to ban the export of low quality *Charles* and *AF Putih Lampit* (Asmindo controls and sanctions export quality, see Asmindo letter No 083, 1993 and Asmindo 1994a) One of the arguments for this was the observation that young canes were being used to make these grades of *lampit* threatening the sustainability of the resource Another was the perception that low-quality exports exerted downward pressure on the high-quality end of the market The outcome of the ruling hit the cottage industry hard in Kabupaten Amuntai, the centre of *Lampit* production These low-quality mats had found a dynamic niche market in Japan They were made from the old and young ends of traded rattan cane (see schematic illustration in Figure 6) The better-quality central portion of these canes were used to produce the highest quality *Lampit* The ban on exports of low-grade *Lampit* such as *Charles* and *AF Putih* created prohibitively-high costs for the cottage industry which now had to discard around 50% of the cane raw material (i.e., old and young ends of the cane, see Figure 6), depending upon raw material quality, or use it to make products for the much less lucrative domestic market In vain, cottage-industry representatives wrote to the Minister of Trade about the problems which the quality ban created (Pokmas 1994) Interestingly, the district (*kabupaten*) office of the Ministry of Trade was relatively supportive of the cottage industry's case (DoT 1994), concluding that,

- (1) Farmers cut old rattan with the accompanying young pieces [of the cut stem] Cutting young canes directly would not make sense
- (2) There is danger of rattan extinction because farmers have long cultivated rattan, though quality is not as high as in East Kalimantan
- (3) The consequences of the ban on export of Charles grade rattan *lampit* are likely to be negative bearing in mind that around half of rattan purchased by handicraft producers consists [of portions of]

young rattan [for Charles *lampit* production]

In recent years, Asmindo has sought to extend the control of rattan mat exports to include *Saburina* (machine-made), and all other types of mats, in part to prevent the lower-priced *Saburina* from competing with *Lampit* made by the cottage industry (Asmindo 1994c & 1995c). Arguably, a more effective way to help the cottage industry would be to allow the export of all marketable grades and to allow them access to more buyers. Asmindo's practice of reducing the number of buyers removes an important, competitive market force which would tend to bid up the price of *Lampit*. This is the kind of "unhealthy" competition i.e., amongst foreign buyers, which should be encouraged.

Finally, even if it were established that the government-approved control of the export market had resulted in increased total export value, there remains the question of equity. How much has the *lampit* sub-sector shared in the benefits? It would appear that the major beneficiaries have been a small group of large exporters and that opportunities for the development of smaller-scale, more labour-intensive industry have been reduced.

(iii) Further Expanding the Scope of Export Market Controls

Citing the success of plywood export policy, some in the export industry are calling for regulation of the marketing of all rattan and wood furniture. Here the problem is that furniture is a very different commodity from most of Indonesia's plywood. Most plywood exported from Indonesia is relatively homogenous commodity grade for bulk, industrial end-use. Furniture, on the other hand, is highly varied in type. The market is diverse with a multitude of buyer-based specifications. It is highly quality conscious. Designs change frequently. Dissatisfied buyers can readily shop elsewhere. All of which argue for the close buyer-seller relationships of the open market rather than the less responsive and more bureaucratic approach of a mandatory export marketing board.

Indonesia's market power in rattan furniture exports (let alone its much smaller share in wood furniture) is not as unassailable as it might appear because of ready substitutes. For example, Indonesia accounted for around 50% of all rattan furniture sold in Europe in 1993 but rattan furniture represented only a small percentage of all wood and rattan furniture in that market.

Table 20 Development of Rattan Lampit Industry in South Kalimantan, 1987 - 1993

Year	Number of Enterprises	Employment	Labourers per Factory
1987	87	3,366	39
1988	148	5,799	39
1989	181	14,483	80
1990	142	15,470	109
1991	39	10,550	271
1992	50	11 933	239
1993	53	12,033	227

Notes

/a/ Source DoT, Dmas Perindustrian, Kalimantan Selatan (1994)

Table 21 Rattan Lampit Industry in Amuntai, South Kalimantan, 1984 - 1993

Year	Number of Enterprises	Employment	Labourers per Enterprise	Production (m ²)	Value Rp'000s
1984	21	1 111	53	63,951	415,682
1985	37	1 180	32	177,726	935,815
1986	174	2,478	14	249 785	1 473 732
1987	435	5,606	13	1,003,196	7,662,660
1988	435	6 701	15	658 196	5,396,006
1989	435	6 701	15	165 834	1,212 486
1990	76	2 100	28	194,745	2 753,518
1991	78	2 144	28	381 973	2,753 518
1992	167	3 323	20	n a	2,944 693
1993	162	2 576	16	n a	553 363
1994	20	n a	n a	n a	n a

Notes

/a/ Source DoI, Kabupaten Hulu Sungai Tara, Kalimantan Selatan (1994)

Table 22 Rattan Lampit Industry in South Kalimantan, 1988 - 1994

Type of Enterprise	Before 1988	1989-1993	1994
Handicraft Groups	700 - 1,000	435	20
ETLR (Approved Exporters)	180	37	15
Buyers (Japan)	?	36	15

Notes

/a/ Sources NRMP (1994), /b/ DoI (1994), /c/ Asmindo (1994)

Table 23 Rattan Lampit Exports from South Kalimantan, 1987 - 1995

Year	Volume (tons)	Value US\$ '000s	Unit Price (US\$/kg)
1987	537.5	3,426.6	6.38
1988	2,377.6	16,177.7	6.80
1989	1,714.1	12,646.3	7.38
1990	8,057.1	9,851.3	1.22
1991	9,443.6	19,068.5	2.02
1992	2,363.8	17,176.7	7.27
1993	1,243.6	9,174.9	7.38
1994	2,237.8	9,810.0	4.38
1995	1,837.2	15,408.6	8.39

Notes

/a/ BPS 1996

Figure 6 **Schematic Illustration of Use of Rattan Raw Material for the Production of**
Lampit

—

6 Resource Management Regulations, Taxes and Transport Licences

Costs of licencing schemes for harvesting and transport of rattan have resulted in additional costs. Prices for producers have been depressed accordingly. Lower producer prices have discouraged cultivators and gatherers who have sought other livelihoods. Other producers and traders have been drawn by the profits of smuggling to the world market where prices are double and where 10-30% of Indonesia's raw and semi-finished rattan have been traded. Meanwhile, rattan-bearing forests have been increasingly disrupted by logging or converted to timber plantations as well as to agricultural plantations and smallholdings (e.g., fruit trees, rubber and cocoa, depending upon location and agro-ecology), further reducing supplies. Furthermore, cultivated rattan agroforests have also been subject to royalty payments which are no more applicable under such agricultural settings as they would be for coffee, cocoa, rubber and other major tree crops.

The net result has been that furniture factories have faced problems of inadequate supply of raw materials. To be sure, producer prices have begun to rise but too late for areas where deforestation has taken place.

6.1 Rattan Concessions and Harvesting Rights

A Harvesting of Wild Rattan

Harvesting rights for wild rattan are granted to small-scale producers only, i.e., individuals or cooperatives (Decrees No 066 & No 179, 1988 and No 208, 1989). Harvesting rights are formally non-transferable (Decree No 208, Chapter I Article 4, 1989). Rattan harvesting is not allowed in wildlife and nature reserves and national parks. The process of obtaining a permit is excessively bureaucratic, an involved process which is related to the application process for a SAKB or SAKO transport licence (see below). Various fees are paid (Decree No 839/1991) and the licence is only valid for 6 months. It then has to be renewed by a similar mechanism process. The procedure can be summarised as follows, (after Anon 1994)

(1) Recommendation letter from the Camat to the Forestry Official (KRPH) about the location

(2) Ask for a letter of introduction from the forestry official from the forestry branch office (Anak CDK) responsible for the area, who will prepare a temporary map of the area to be requested for harvesting. This letter is needed as a recommendation to the Kabupaten Forestry Office (CDK, Cabang Dinas Kehutanan) which includes assurance that the area is not in protected forest, is not where other land use permits apply and has potential.

(3) Include photos of rattan nurseries as proof of being prepared to replant.

(4) Obtain a collaborative agreement with an industry company which will store the rattan.

(5) Ask the Department of Cooperatives for a letter of recommendation, appending 1 to 4 above.

(6) Items 1 to 5, above, are submitted to the CDK office which instructs the official from the Anak CDK to check the area and the nursery. The CDK office then sends on the request to Dinas Kehutanan at the provincial level.

(7) Dinas Kehutanan conducts technical evaluation of items 1 to 6.

(8) If all conditions are met the Dinas Kehutanan issues a permit for HPHH Rotan (the right to harvest rotan).

(9) Once the permit has been received, a request is made by the holder to the Kanwil of the Department of Forestry (provincial level) for a registration number for the issuing of a round-wood transport document (SAKB, Surat Angkatan Kayu).

Bulat) The number is needed to obtain a form for the SAKB. If the HPHH Rotan is extended, it is necessary to obtain a new SAKB registration number

B Concessions for Rattan Cultivation

When rattan concessions were initially offered by the government (Decrees No 149 & No 148, 1989, the latter replacing Decree No 066, 1988), many firms applied. None pursued the matter further when they found that the small print forbade them from harvesting wild rattan where they were to establish rattan plantations (Decree No 179, 1988). In Malaysia, on the other hand, which enjoyed the high "free-rider" world prices for rattan generated by Indonesia's export bans, companies have found it profitable to develop large rattan plantations.

C. Traditional Rattan Agroforests

Available data indicate that there are over 25 000 hectares of rattan agroforest in Kalimantan established through planting by smallholders (see Appendix 5). Some of these agroforest systems have an unbroken line of existence going back to the nineteenth century (Haury & Saragih 1995). They are economically and ecologically sustainable and their mixed forest habitats support significant levels of biodiversity. Some of these agroforest kebun are located within concessions for natural production forests.

For rattan gardens within concessions, legal land-use recognition is only granted to the concession. Overlapping rights are not recognised. Planting rights, which would legitimise (long-established) rattan agroforests, are not allowed for natural production forest concession areas (Decree No 148, Chapter I, Article 4, 1989). In effect, rattan agroforests which predate many concessions by several decades are not given formal safeguards from logging damage, e.g. road building, felling and log extraction.

5.2 Royalties (IHH)

Rattan has been subject to royalty payments (Iuran Hasil Hutan, IHH) at least since 1986 (Decrees No 339, 1986 through No 377, 1995, and No 208, Chapter IV, Article 9.1, 1989). Rattan royalties are set periodically through annual announcements in the same decree for log royalties. The royalties are intended as a tax on a public asset which is ready for harvesting and has not incurred costs of establishment and planting, e.g., rattan occurring wild in the natural forest. A royalty is set at a level low enough to allow adequate returns on investment but high enough to prevent windfall profits.

A long-standing point of contention has been that the royalties apply not only to wild rattan from the forest but also to cultivated rattan, irrespective of whether such rattan comes from land which is officially designated as forest or agricultural land. Cultivated rattan is generally managed under a sustainable production system which is more productive than wild rattan. Given that one of the government's arguments for agricultural development is to reduce pressure on forest lands, equal taxation of its rattan output with that of the forest does not support such government policy. Furthermore, taxing cultivated rattan encourages the conversion of rattan lands to other crops such as rubber and cocoa, neither of which are subject to royalties or similar taxation.

Royalties may exert a heavy cost burden on cultivators of rattan and therefore conflict with the aim of encouraging planting, e.g., over 20% of the sale value for sega rattan (Table 24). Moreover, revenue from rattan royalties, even if there were no evasion, would amount to under US\$ 10 million p.a. for all rattan, and under US\$3 million p.a. for cultivated rattan (Table 25). A further point to note is that because royalties are due for all rattan, rattan transport must also be licenced through the SAK-B & SAK-O system, adding further to costs (see below). The very fact that a commodity is regulated provides an excuse for a wide range of government functionaries to inspect papers and the rattan itself whether in boats, trucks, or warehouses.

Some have argued that high royalties (paid by traders according to volume and outside the forest) passed on to gatherers of wild rattan in the form of lower prices reduce a powerful incentive to over-exploit rattan through excessive extraction rates which lead to irreversible resource depletion. The problem with this argument is that it is difficult to set the royalty at a level which will be significant but not too high, thereby encouraging evasion (e.g., smuggling) or providing incentives to convert rattan land to more lucrative (less taxed) uses.

In fact, high prices for gatherers have been blamed for over-exploitation. Some environmental observers have remarked that low prices may bring benefits because high prices (such as those leading up to the export bans) encourage excessive and unsustainable harvesting of wild rattan, particularly the non-clumping types. Field observations in Central Sulawesi suggest that while younger canes may be harvested when prices are high, the market place sets quality limits. Immature canes taper too much and are prone to various defects and pest attack. The youngest harvestable canes have generally already flowered. Seed dispersal and ecological niche creation during harvesting may actually favour regeneration. Furthermore, rattan gatherers report returning to the same location for harvesting since the early 1960s (Bennett & Hayat 1994). Arguably, the greatest threat to the rattan resource is loss of habitat, e.g., slash-and-burn for non-rattan use and conversion of large tracts of forest land for agricultural use. The present relatively low value of the rattan resource also undervalues its habitat and arguments for preserving it in the face of competing demands for land use.

5.3 Transport Licences (SAK-B & SAK-O)

All rattan transported within Indonesia must be accompanied by transport licences to ensure royalty payment and to discourage smuggling (Decree No 402, 1990). Licences are either so-called SAK-B for raw rattan or SAK-O for semi-finished rattan (Decree No 230, 1992). Transport licencing applies not only to wild rattan but also rattan from cultivated sources. Transport licencing is supposed to assist in the enforcement of royalty payments and also to prevent over-exploitation of the rattan resource. Licence fees are charged.

Asmindo, amongst others, has questioned the usefulness of the transport licencing system (Bisnis Indonesia 1995b & 1995c). First, its relevance is questioned given that the system is a direct application of the system for transport of logs, a commodity which, unlike rattan, is tracked from a known and mapped location where cutting limits are applied. In fact, there is no transport licence specifically for rattan. SAK-B and SAK-O refer to letters of transport for logs. There is no clear linkage between the licence and the origin of the rattan, neither any clear guidelines on extraction rates. In short, the licence serves no function except as a source of tax revenue.

Second, transport licencing adds to the costs of transport both in terms of the formal fees and also bureaucratic delays. The Ministry of Trade and Industry (then the MoI) complained in 1986 of the SAK-B/O system being used for personal gain and encouraging smuggling alternatives (DoI, 1995b).

Third, it applies to cultivated rattan which, as mentioned above, is a comparable production system to the agroforestry/tree crop systems for production of rubber, coffee, cocoa, tea, nutmeg, cassia, vanilla and other cash crops, most of which are not subject to transport licencing.

Table 24. Royalty Payments (IHH) for Rattan Cultivated by Smallholders, East Kalimantan, November 1996

Rattan Type	Farmgate Price, Rp/kg (Wet)	IHH, Rp/kg	IHH as % of Sale Price
Pulut Merah	1,600	80.3	5.0%
Pulut Putih	1,000	80.3	12.5%
Sega	300	71.5	23.8%

Note /a/ Field Observations Minta, Mahakam, East Kalimantan, November 1996

**Table 25 Rough Estimate of Annual Revenue from
Rattan Royalties (IHH), 96/97**

Revenue Collection Scenario	Cultivated Rattan	Wild Rattan
Production (tons, wet)	100,000	200,000
Average IHH, Rp/Kg (wet)	65	70
Revenue Less Smuggled Rattan (US\$ millions) /a/	2.2	3.7
Total Revenue	2.8	6.1

Notes

/a/ Assume 30,000 tons dry rattan are smuggled

7. Inter-Island Trade Restrictions

Some national export trade policy is being mimicked at the provincial level in a way which benefits local processors at the expense of the furniture industry in other Indonesian provinces. Thus, since 1991, a Governor's Decree No 514, 1991 (which supported the suggestions of Asmindo) banned the inter-island shipping of raw (*asalan*) rattan from Central Sulawesi to encourage development of the provinces, semi-processing industry. Some shipments of raw rattan were to be allowed by approved Asmindo traders provided they comprised rattan grades which were not suitable for the making of semi-finished rattan. Only Asmindo-approved traders would be allowed to ship either raw or semi-finished rattan from the province. Furniture makers in East Java, however, using washed and sulphured (W&S, considered as raw) rattan canes have been denied adequate supplies¹⁹ (Asmindo 1995b).

By definition, policies that discriminate against one part of the domestic industry in favour of another part are generally economically inefficient. Total incomes from the industry (counting raw material producers and processors in addition to producers of finished rattan products) will be lower than with no such policy.

The problem of inter-island trade restrictions on rattan touches on a much wider issue. Over the past decade, deregulation and debureaucratization policies for export commodities have been developed by the government of Indonesia. There have been notable exceptions, such as

¹⁹ Partially-processed large-diameter canes can be used as low-cost inner frames for rattan whicker-work chairs (which conceal the inner frame)

forest products, but by and large the trend has continued, albeit with variable vigour. With the recent advent of decentralisation into the mainstream of political development a regional counter-current to deregulation may be growing. Genuine regional concerns about sources of revenue together with less open and informed approaches to trade development have led to a proliferation of local levies and trade controls on a wide range of agricultural and forestry commodities²⁰. Primary commodities are seen as conveniently taxable sources of revenue.

It should come as no surprise if past national export policies to raise value-added and to support infant industry be applied by regional government to promote downstream processing by applying trade restrictions to inter-island shipping. Insufficient attention is paid to why firms do not readily transfer their processing operations from Java to the outer islands e.g. shipping infrastructure and costs for rattan furniture and supplementary materials such as nails, leather etc (EBRI 1995), communications and administrative costs, availability of skilled labour, labour costs, as well as the presence of other firms with supply and service connections.

Inter-island trade barriers run the further risk of being divisive. Whereas in the past national protectionist policies were perceived as only hurting foreign competitors, their regional variant runs the risk of discrimination against Indonesian producers in other parts of the archipelago. Furthermore, disagreements about inter-island trade barriers may eventually have a tendency to spread beyond the economic arena. Quite apart from the question of whether this contradicts the spirit if not the letter of INPRES IV, 1985, it raises the prospect of "trade wars" within Indonesia. Ironically, foreigners now have more legal access to W&S rattan (if they were to pay the high export tax) than do small factories in East Java who use the rattan for internal chair frames.

How likely is it that provincial-level shipping restrictions and taxes on rattan (and other commodities) will become a more widely-used regional policy instrument? In 1996 the Governor of South Sulawesi issued a comparable decree with almost the same wording as the Governor of Central Sulawesi's decree (Decree Circular No 522 22/518)²¹. One can only speculate about the future popularity of regional trade restrictions. At the very least it can be said that there does not seem to be an effective national policy in place to prevent their proliferation and potentially divisive effects.

8. Discussion and Conclusions: Past Policy Successes and the Need for Change

Indonesia's export ban (replaced by a prohibitive export tax) on raw and semi-finished rattan, the most significant of all rattan development policies, was followed by rapid growth in the value of rattan exports, increasing them by more than a factor of 2 in real terms. Although there was a rapid underlying growth trend in pre-1986 export values, post-1986 exports still increased substantially and rapidly. Starting from 1985 exports (1990 dollars) of about \$120 million, a reasonable guess is that without the export ban, real exports by 1993 would have been in the range of \$175-\$200. Given actual real 1993 exports of about \$310 million, at least half the

²⁰ Over the past five years inter-island and inter-Kabupaten levies have been imposed for shipments of coffee (NTT), cocoa (South East Sulawesi), nutmeg (North Sulawesi), vanilla (Bali), coconuts as nuts, as copra and as cooking oil (Central Sulawesi), citrus (West Kalimantan), and cashew (South East Sulawesi).

²¹ The regional government of South Sulawesi has recently attempted to prevent the inter-island shipping of unprocessed cashew to encourage development of downstream processing in the province instead of on Java.

post-1985 growth (about \$100-130 million) can plausibly be attributed to the export ban/tax. What is more clear is that the ban generated growth quicker than would otherwise have occurred. This growth was due entirely to increased value-added, the unit value of exports more than doubled in real terms from 1985 to 1992.

The boom in profitability and exports resulted in a considerable amount of increased know-how and learning such that by 1993, the tonnage of rattan exported had returned to the pre-ban level of about 100,000 tons. Although this increase in competitiveness is noteworthy, some of the many new entrants are leaving the furniture industry as profits are now shrinking due to rising costs and stable nominal prices. From the mid-1990s onwards, this trend has become increasingly evident. A slow down in growth would also not be unlikely in the long term but the recent absolute drop in volume and value (see 1996) may auger a steeper decline than would be expected from a maturing industry. It is noteworthy that wood furniture exports, operating in an unregulated market, have grown more vigorously in recent years in comparison with the relatively protected rattan furniture industry.

The export barrier policy has been successful in taxing foreign rattan furniture consumers and furniture firms via a large price increase in rattan raw and semi-processed materials. By some reports, raw material rattan costs outside Indonesia reached double that of Indonesia, though in recent years, with rising demand from a growing domestic industry, the gap has closed. Overall, the price differential has translated into an added cost burden on foreign rattan furniture producers of about 15 percent for average quality furniture firms.

There have also been clear losers from the export policies within Indonesia, namely the raw and semi-processed segments, where their *output* prices have fallen or remained stable in nominal terms. Without the ban, raw material prices most likely would have increased, given the relatively scarce natural supply and steady growth in world-wide demand. The policy has been equivalent to a tax/subsidy scheme, with raw rattan harvesters on the Outer Islands being taxed and Javanese rattan furniture makers being subsidized. Of all regions, Kalimantan rattan collectors and farmers have been the hardest hit.

Another less attractive feature of the ban/tax policies was the sudden boom-bust chaos it caused during its imposition period. With raw prices increasing substantially, then falling by roughly one-half, and with a doubling of rattan furniture firms within the period, the industry went on a roller coaster ride in prices and production. By contrast, the log export ban was introduced over five years and was by comparison highly stable. The lesson is clear that policy change of this magnitude should be introduced gradually in order to keep uncertainty down and to make the adjustment costs as low as possible.

Another unintended feature of current rattan policies also breeds costly uncertainty within the industry. That is the recent inclination from several quarters to want to micro-manage the industry. Various schemes have been introduced, including prohibiting new firms from entering the furniture export industry in Java, banning the inter-island shipment of raw rattan within Indonesia (a provincial "export ban") and an attempt to supply-manage the domestic rattan raw material trade. There have been proposals that raw rattan shipments to Java should be subject to restrictions to favour downstream processing in the outer islands and that furniture exports should be controlled to strengthen Indonesia's marketing position and quality performance. These schemes will increase costs and reduce industry incomes and furniture exports over time if they are implemented.

Given the increased maturity of the industry, and a period of effective protection that has now been in place for over ten years (almost twenty years since the first protective step in 1979), a process of dismantling these restrictions and regulations should be given serious consideration by policy makers. The 1995 removal of investment restrictions and the 1996 deregulation of webbing exports indicate that this process is already under way. To what extent it will proceed

is an open question. With rattan in mind, Godoy and Rodrik point out that major protection measures such as export bans are rarely rescinded because of the political cost of doing so (Godoy & Rodrik 1989). Recent discussions with Asmindo and officials from the Ministries of Trade and Industry, of Finance and of Forestry, however, have revealed a willingness to engage in significant export policy reform as well as internal reforms to reduce production costs.

The increased maturity and competitiveness of Indonesian rattan furniture makers, coupled with the costs of the current policy on the Outer Island raw and semi-processed industry, suggest that the time has come to lower, if not remove, the current export tax on raw and semi-processed rattan. Its purpose, to expand value-added within Indonesia has been accomplished. Its new purpose, if any, should be only to tax foreigners by using Indonesia's pre-eminent position as raw material supplier to set an optimal size. As an export tax on foreign rattan raw material consumers, it should apply also to the rattan raw material content of rattan furniture exports as well. Such a proposal should be a priority for study, including the optimal size of the tax, its application to finished rattan products, and the recommended phase-in period.

Comparison with the Log Export Ban

Preliminary comparisons can be made between the rattan policy and the log export ban imposed in the early 1980s. The rattan export barriers were imposed very suddenly and threw the industry into a substantial boom-bust period of instability. The log export ban was introduced more gradually (over 5 years), and was characterized by a much smoother, predictable and less costly period of transition. Another question is the learning period that was needed for Indonesian plywood and rattan furniture producers to become competitive with the rest of the world. In the case of logs and plywood, the learning period was relatively long by policy design and the technology appears to have required few new skills. It would appear from the rapid expansion of rattan furniture that the furniture technology, at least at the lower end of the market, also did not require a very lengthy or difficult learning period.

In both cases barriers to export of raw and semi-finished products led to lower prices domestically which, in turn, resulted in lower values for the resource base, the forest. Downstream industry benefited, as intended. But this policy-driven undervaluation of the forest resource is likely to encourage more wasteful utilisation and greater risk of conversion to other, relatively higher-value users of the forest land.

10. Policy Options and Expected Outcomes

The present study does not conclude with a list of policy recommendations *per se*. What this section attempts is the presentation of the wide spectrum of policy choices, from maintaining the *status quo* to a fundamental change of direction. Inherent in such an approach is the need to indicate the expected outcomes of the different policy options, some of which are best linked, others self-contained and others mutually exclusive.

There are basically four policy options. The present section outlines the nature of these options and some of their expected outcomes.

*** Option I --- The *Status Quo***

If there is no further policy change, except for minor adjustments, rattan resource value will remain undervalued, primarily because of the continued existence of the prohibitive export taxes. This problem will be magnified by the high-cost transport-licencing system (SAK-B & SAK-O), and the current level of royalties particularly for some canes such *sega*. A greater number of producers will continue to seek alternate sources of livelihood and to convert rattan-bearing natural and agroforests to more profitable uses. Smuggling will remain attractive and difficult to control.

* **Option II --- Increased Regulatory Intervention**

The furniture association has suggested greater government intervention to (a) prevent "unhealthy" competition (b) ensure sustainable harvesting, (c) improve Indonesia's export quality and market position (Asmindo 1993a) Suggested policy instruments include

II 1 Extending the *Lampit* Approved Exporters System *ETLR* to Include the Export of All Rattan Matting and *Karpet*

To ensure a more unified bargaining approach, price control and the elimination of unfair competition of machine-made *saburina* mats with hand-made (cottage-industry) *lampit* the case has been made to broaden the scope of the *ETLR* system (including its marketing arm) to control exports of all kinds of rattan matting (Asmindo 1993b, 1994b & 1996)

Granting wider powers for the *ETLR* system is likely to exacerbate the present system which restricts entry into the export industry and limits selling options for the cottage industry Market diversification will be less likely And Indonesia is likely to continue to loose market share to lower-cost producers such as China and Vietnam

II 2 Establishment of an Approved Exporter System for All Rattan (and Wood) Furniture

In view of weak demand for rattan furniture, particularly in Europe, the argument has been made for an approved exporters' system for all rattan and wood furniture exports from Indonesia to provide exporters with more bargaining power and better quality control It has further been argued that Indonesian exporters face unfair competition from foreign buyers who by-pass the larger factories and go straight to cottage industries in Java which produce rattan and wood furniture The solution would be to insist that exporters have processing/warehouse capacity Thus, approved exporters would have to have a working area of at least 2,500m² employ at least 150 employees and have been at least 30 months in operation with exports over the past six months of at least US\$500,000 Export contracts would have to be approved by Asmindo or a body it set up for this purpose This would exclude many small-scale foreign buyers

Yet, these kind of agents who develop essential linkages with designers and consumers overseas It is hard to see how excluding them would improve penetration and development of the highly diverse and quality-conscious world rattan furniture market where substitutes and competitors abound and Indonesia does not have the kind of dominant position it has had for plywood And if markets were lost because of excluding foreign buyers some of the hardest hit would be small-scale manufacturers and the labourers they employ (whose wages tend to rise in response to more competition amongst buyers of the cottage industries outputs)

II 3 Specific Restrictions of Inter-Island Shipments of Raw (*Asalan*) Rattan

To promote downstream processing of rattan in the regions, a ban of inter-island shipments of raw (*asalan*) has been promoted Only rattan being shipped to furniture factories with semi-finishing capacity would be allowed Shipments of raw rattan to self-contained semi-finishing firms would be curtailed

Supply management of rattan was attempted in the early 1990s and failed The suggested scheme would be more complex and difficult to enforce than its predecessor

It would set an ominous precedent for similar strategies for a wide range of commodities. If it could be enforced it is questionable whether provincial industry could absorb present supply and if it could not then surplus would depress prices, a situation only relieved by increased smuggling! Perhaps more seriously, it would reduce the flexibility to buy different qualities and quantities of semi-finished raw material.

II.4 Shortening the Market Chain

A number of studies have identified relatively large trading margins, particularly for sales by farmers to traders in remote areas. As for agricultural commodities, so too for rattan the argument is often heard that the marketing chain should be shortened so that farmers will be offered higher prices by agencies which cut out middlemen. Provided such market-shortening agencies compete with the existing traders no harm is done. But the intention is more often to exclude other traders through government regulation.

If traders were to be excluded from the rattan domestic market (in the name of shortening the market chain), the past record of such actions indicates that the likely outcome would be more restrictive quality requirements, reduced provision of credit to farmers and reduced quantities of rattan accepted for sale, all of which would tend to exert downward pressure on prices. If anything more not fewer buyers are needed providing farmers and gatherers with many selling options.

*** Option III --- Deregulation**

Deregulation covers a wide spectrum of policy reform from the modest relaxing of production and trade restrictions to opening the rattan industry to competitive pressures which the economy as a whole must increasingly face as a signatory of the WTO and regional trading blocks. A point to consider here is that wood furniture, the fastest growing wood-based export commodity, has achieved steady growth in an unregulated market, facing and overcoming many of the obstacles that have been claimed by some in the industry and government to justify more regulation of rattan trade such as the perceived constraints of "unfair" competition with foreign buyers and amongst themselves.

Also reducing the tax burden on rattan through deregulation would lead to higher prices for producers, discouraging forest conversion by rattan gatherers and planters to non-rattan usage. Thus

III 1 Reduction of the Export Taxes on Raw and Semi-Finished Rattan

>>> **Optimal Export Tax** There is the potential for Indonesia to exploit its natural world market power in rattan raw materials by raising raw rattan prices. This will tax foreigners (through higher raw rattan prices to all buyers domestic and foreign) to the benefit of Indonesia as a whole. This could be accomplished through an optimal export tax (DoT 1992a) calculated to be one which maximizes the net "profit" to the whole industry, in the face of a possibly elastic world demand for rattan furniture, and the ability of some neighbouring countries to supply raw rattan to that market.

Such a tax differs from the current policy by being applied to all rattan being exported, not only that in the form of raw and semi-processed rattan (i.e. including furniture as well). By contrast, the current policy does not tax the raw material going into domestically produced furniture, and the current export tax rate is likely to be much too high. Implementing such a tax can be costly and these administrative costs should be reckoned in deciding whether its benefits are large enough to exceed its costs. A separate

question that must be dealt with is who should be the recipient of this tax--should the revenues accrue to industry participants or the government

An optimal export tax would raise costs by some amount for Indonesian furniture makers, but from the rapid expansion they have followed in the last 6 years, negative effects on their performance should be modest. They have clearly become competitive with rattan furniture makers outside the country, at least in those lines they make and markets to which they now sell. And such a tax would open up possible sales by semi-finished rattan and furniture component producers to niche furniture makers outside Indonesia, raising incomes to rattan farmers and collectors.

Objections to a reduced export tax could be met with the suggestion that some or all of its revenue be earmarked for rattan development. It should be noted, however, that past experience of earmarked taxes e.g., CESS 1976-1981, were far from unqualified successes. Allocation of funds proved particularly problematic.

>>> **Abolition of the Export Taxes** The option of abolishing the export tax altogether on semi-finished rattan, if not also on raw rattan, presents difficulties and opportunities. On the one hand, it can be argued that about ten year's protection of the industry has borne fruit. The industry has grown and so too its demand for Indonesian rattan bringing prices closer to world price levels. Smuggling would become a non-issue. But, although some in the industry claim they could now compete for raw material, others at the margin would face difficulties and in the short-term unemployment would rise locally. Employment would increase where exports of previously banned rattan took place. Prices for raw material would increase but so too would supply. And enjoying higher sale prices rattan producers would be less inclined to convert their land to other uses.

Answers to questions about supply and demand responses to removal of the export taxes are needed before abolition is seriously considered by policy-makers.

III 2 Beyond Deregulation of Webbing Exports

As of December 1996, by virtue of its absence from the Ministry of Finance's list of taxable export commodities (reinforced by a statement from the Department of Trade and Industry (DoT&I 1997)²² For several years the argument had been made for allowing exports of webbing to increase demand for cultivated rattan in Kalimantan. Webbing production capacity in Kalimantan had always far exceeded the capacity of Indonesian manufacturers to absorb it. But how long will it take for the industry, long-inactive, to tool-up and recapture old markets which may have been lost to other producers?

An important precedent has been set. Its outcome should be closely monitored. Its benefits (e.g., higher prices for small-scale producers, increased cultivation by smallholders) may have, one day, to be weighed against complaints from those (few) in the furniture industry who might claim that their supplies of webbing are being constrained.

III 3 Conversion of the Approved Exporters System and Joint Marketing Board for *Lampung* Rattan Exports to a Voluntary Trade Arrangement

Formal abolition of the ETLR and its marketing arm is a step that may be difficult for policy makers to take. An amendment to the enabling decree and subsequent decrees which established the system could stipulate a new, voluntary status.

²² It is not clear whether this has been achieved by re-classification of webbing to its (original) "finished" status or whether the tax has been set at 0%.

The outcome of re-opening the *lampit* trade would probably result in a number of benefits (a) Diversification of selling options for labour-intensive, small-scale producers would encourage this sector to grow again with more widely-distributed benefits such as increased employment, (b) lower costs because present fees would no longer be charged, (c) price signals would be conveyed directly to producers, (d) allowing buyers to operate in Indonesia would encourage diversification and better quality as well as bring information to producers about competing products and (e) export value of *lampit* would probably increase in the long term because of increased output. Official statistics might, at first, obscure this trend because of current unreliability of export price data (see above). More selling options and lower costs would help Indonesia to compete with China and other producers.

III 4 Allow the Export of All Marketable Grades of *Lampit*

Allowing the export of low-grade *AF Putih* and *Charles lampit* would provide greater returns to the small-scale cottage industry because profitability would increase with greater utilisation of waste rattan. This in turn would increase demand for the currently low-priced *sega*, *irit* and *jahab* cultivated rattans and thereby act as a force for sustainability, not (as the ban's proponents claimed) against it. Japanese taste for the low-grade *lampit* had been growing before they were banned. If it is argued that these *lampit* can no longer compete with say substitutes from China, made from bamboo or even rattan smuggled from Indonesia, then let buyers be the judge of that. There is every likelihood that such *lampit* will regain part of its old market niche and perhaps find other markets.

This option, though of value in of itself, may be constrained in its success unless Option III 3 is realised.

III.5 Abolish the SAKB and SAKO Licenses for Rattan Transport, above all for Cultivated Rattan

Establish a less bureaucratic, time-consuming and costly system for issuing transport licenses and one that is distinct from that for logs presents various difficulties. Delays may be reduced but charges may simply be concentrated in fewer hands. Other functionaries will still regard rattan cargoes as subject to inspection. A better approach would be to abolish the SAK-B and SAK-O for all cultivated rattans (see below). Better still would be the abolition of rattan transport licencing altogether.

Transport costs would be reduced and probably translated into higher forest/farmgate prices for producers. Would there be more smuggling? Smugglers circumvent the system now anyway. This option and the one to remove royalties are obviously closely linked (see below).

III.6 Removal of the Royalty Levy on Cultivated Rattan

There is little justification for a royalty/stumpage fee on cultivated crops invested in by farmers (no justification if on private land) in contrast to harvest of wild forest products in state lands where harvesters may enjoy excessive rents. Similar cultivation systems in Indonesia (e.g. tree crops such as coffee, cocoa, cassiavera) face no such taxes. Eliminating royalties and associated transport licences such as SAK-B and SAK-O (see above) should significantly reduce costs and probably result in higher prices for producers and greater incentives to maintain their rattan-production systems rather than change their land use to other crops.

Given that it may be considered too difficult to distinguish between cultivated and wild rattan, there is a case for abolishing the IHH for all rattan. On the unlikely

assumption that IHH is paid for all rattan, it would probably amount to less than US\$10 million annually. In reality, only half this figure may be currently collected.

Alternatively, in Kalimantan, the trade of all small-diameter rattan (Over 95% of such traded rattan is cultivated), say less than 20 mm diameter could be deregulated. Of course, there is always the danger that local government will regard this as an opportunity to put its own revenue-earning taxes on rattan. This touches on the issue of regional restrictions on rattan trade which is covered below.

III 7 Debureaucratisation of the Harvesting Licence

Reduce the number of steps involved in obtaining a harvesting licence. Allow longer periods of validity to prevent the need for repeated renewal. Like III 6 and III 5, above, this would reduce costs of rattan production and result in corresponding increases in price for small-scale producers.

III 8 Removal of Inter-island Restrictions on Rattan Shipments

Inter-island restrictions on the shipping of raw (*asalan*) rattan from South, Central and South East Sulawesi should be removed. Regional semi-finishing firms would then have to compete with buyers from other regions, exerting upward pressure on rattan at the forest and farmgate, benefiting small-scale producers, reviving the small trader industry for raw rattan processing (e.g., drying, frying and sulphuring) and discouraging some smuggling.

The ideal policy response that would achieve this would not be an *ad hoc* instruction from the centre to the Governors but rather a higher level stipulation that the trade in primary commodities amongst provinces shall not be hindered either by non-tariff or tariff barriers. The alternative may be the prospect of proliferating inter-island trade barriers not just for rattan, with significant distortionary effects on economic growth and divisive trade disputes within Indonesia.

*** Option IV --- Development Projects**

Government investment in various kinds of development projects can provide benefits, though these often tend to be limited in scope because of limited resources. And some projects (e.g., dissemination of information) have a far wider reach than others (e.g., full-assistance, subsidised credit packages).

IV 1 Cultivation Projects

Cultivation projects have been considered as an important means of encouraging planting of rattan by smallholder farmers. Typically these include provision of subsidised credit.

Indonesia's past experience with subsidised credit indicates that the outcome will be high arrears and dissatisfaction with the decision-making process of who receives such credit and who does not. Alternatively, the checks and balances against abuse may be so unwieldy as to greatly slow down the programme. Finally it is well to remember that for many decades smallholders have cultivated rattan without any government assistance whatsoever. And the knowledge of such farmers may be of more use than formal extension agents.

Wider benefits for rattan cultivators and gatherers would result from the following

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Wider benefits for rattan cultivators and gatherers would result from the following:

IV 2 Pilot Projects as Policy Experiments

Another kind of development project promises much wider benefits the pilot project as policy experiment, i.e., testing implementation of a proposed new policy scenario. There is a pressing need to devise and test in pilot projects formal systems of land-use recognition that would grant security of tenure for cultivators of rattan and allow the establishment of extractive reserves. Once tested they should provide important input to producing enabling policies for agroforest and extractive reserve management throughout Indonesia.

Until these policies are in place, biodiverse and economically-viable forest systems under individual or community management will continue to face the threat of overlapping land-use rights, e.g., logging damage to rattan in concessions created long after rattan agroforests were established there by local people (Fried 1994b)²³ or settlers who ignore customary rules that restrict excessive harvesting of rattan in locally-recognised extractive reserves e.g. Danau Sentarum forest areas West Kalimantan (Peters 1995).

IV 3 Dissemination of Market Information

Dissemination of market information could help empower raw-rattan sellers in remote areas where traders are few, e.g., radio broadcasts of price/quality information. NGOs might be willing to help develop this relatively low-cost approach, e.g., by establishing *warung informasi* for market information which might also include new regulations or opportunities offered by development schemes in their area.

IV 4 Inclusion of Rattan in the *Bina Desa Hutan*

The government-mandated community development programme *Bina Desa Hutan* (now *PMDH*), the responsibility of natural production forest concessionaires, focusses on food-crop agriculture. Concessionaires have difficulty in providing relevant and expert assistance to smallholder farmers. The *PMDH* should be flexible enough to allow concessionaires to refocus their efforts if so requested by local communities, e.g., to transport large quantities of rattan from cutting blocks before logging.

IV 5 Clarification of Land Tenure

The greatest benefit for cultivators would be clear and uncertain access rights to their resource, above all in areas where rattan plots are long-established but other institutions have been granted competing land-use rights by government, e.g., production forest concessions, industrial forest plantations and protected areas. The establishment of extractive reserves for wild rattan is a more complex challenge. The Ministry of Forestry's *Hutan Kemasyarakatan* programme may, however, offer an entry point to the sustainable development of extractive reserves.

IV 6 Integration of Farmer/Gatherer Knowledge into the Research Process

As research institutes pursue studies into improvement cultivation technologies, it is well to remember that some communities have been cultivating rattan for generations. Farmers in such communities can be a font of knowledge for receptive researchers. Not only may they have developed novel approaches but their responses to

²³ Concession managers and MoFr officials lament the problem of settlements developing within concession boundaries, so-called, *desa masuk hutan*. In the case cited above, however, it would be more correct to use the term *hutan masuk desa*!

practices recommended by research institutes can provide insights that might otherwise escape even the most diligent researcher. Accepting the value of indigenous knowledge may, for some research institutes, require an explicit shift in research policy.

Without sufficient learning from farmer experiences, recommendations for technologies for development projects run a greater risk of being inappropriate to local conditions.

11. Recommendations for Further Policy Research

The present study is an introduction to the rattan policy domain. As such, it leaves many questions unanswered. Further policy research is warranted. Suggestions for future policy research are given below.

1 Optimal Export Tax

Study the possibility of imposing an optimal export tax, including

- ◆ The level of an export tax on rattan that is optimal for Indonesia, given its market share, the substitutes available to furniture buyers, and the likelihood of increased raw rattan supplies coming from neighbouring rattan-growing countries as prices rise,
- ◆ How the tax level is to be varied on different rattan products, such as a function of the raw material content of each product,
- ◆ The costs of collecting the tax, including those differing by product type, and
- ◆ The best path or speed by which to lower the existing tax to its optimal level
- ◆ Setting the tax also with an aim to reduce the incentive to smuggle
- ◆ Finally, explore also the likely outcome of removing the tax altogether

2 Outcome of Export Deregulation

Monitor the outcome of the deregulation of exports of rattan webbing, tracking discernible benefits and possible drawbacks over the short- and medium term. Establishing the benefits e.g. higher farmgate prices, more employment in the expanding webbing industry and greater export value as well as competitiveness, without threatening domestic furniture manufacturers, would provide a compelling argument for further deregulation. Webbing output may appear modest but could have a significant effect on the profitability of producing the semi-finished products core and peel. Will world markets lost (particularly to China) after the ban, be regained?

3 The Impact of High and Low Prices

Study different rattan harvesting responses to rising and falling prices. While the present problem is low prices, concern has been raised in the past that high prices are also a threat to rattan resource because of over-exploitation. Indications to date are that this fear may have been exaggerated for most species. Most wild, large-diameter canes may have flowered adequately to ensure regeneration before they are old enough to be of marketable quality. To what extent is this so? Could an outcome-based regulatory framework replace the existing bureaucratic method of granting harvesting licences?

4 Recognition of Long-established Rattan Agroforestry Systems

Critically determine the environmental, social and economic values of long-

established (traditional) rattan management systems to support the rationale for allowing local communities more secure access to the wild rattan resource. For over a century some communities have cultivated rattan in a sustainable manner. How can such production systems be protected from encroachment by outsiders, be they settlers or concessions for natural production forests or industrial plantations?

5 The Value of Local Knowledge about Cultivation and Gathering

Investigate the value of indigenous knowledge about rattan gathering and cultivation to research, considering both novel practices and responses to recommended practices. To take one example, compare the recommended practice of evenly-spaced planting with less uniform, traditional spacing which may better accommodate habitat-specific characteristics (as described by Fried 199b)

6 Determination of Rattan Stocks

Devise a practicable means of assessing the stock of potentially-commercial rattan in Indonesia. To what extent can the National Forestry Inventory system be adapted to rattan inventory needs? Assessing the stock of commercial species and sub-groups (currently, around 30) as well as potentially commercial species amongst the approximately 300 rattan species in Indonesia, is a formidable task. Given the importance of knowledge about rattan stocks but the limited availability of appropriate human and financial resources, rapid but reliable measures are essential. Can models be constructed around existing timber inventories and remote-sensing data?

7 Ecolabelling

Explore prospects for forest certification and ecolabelling of cultivated and wild rattan production systems. Rattan may prove to be an ideal candidate for forest certification for ecolabelling above all cultivated rattan system in Kalimantan which have been sustainable for over a century. No chemical pesticides or fertilisers are used (but the sulphuring process may be problematic). Could ecolabelling give Indonesia a competitive advantage over rattan products from China? Products made in China from rattan smuggled out of Indonesia would probably not be eligible for ecolabelling.

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