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MALAYSIA

AGRICULTURAL SECTOR REVIEW

CROPS

A. Rubber

World Situation

1. World consumption of rubber has grown very rapidly over the past two decades. Poor prospects for natural rubber production in the 1950's led to considerable investment in synthetic rubber capacity, which increased the share of synthetic rubber in the market from 38 percent in 1955-57 to 60 percent in 1968. Despite growth in consumption averaging 6.3 percent annually between 1955 and 1968, the supply of natural rubber grew at only 2.6 percent annually while synthetic rubber output rose at about 10.5 percent annually over the same period (Annex 9, Table 2.7). Consumption of rubber is closely correlated to industrial output in the developed nations, and on the basis of present forecasts for industrial growth, demand for rubber is expected to reach 8.9 million tons 1/ by 1975. Imports of natural rubber into Soviet bloc countries are also expected to grow, giving a total potential demand for new rubber in 1975 of about 9.7 million tons. This represents an average annual increase in consumption of about 440,000 tons between 1968 and 1975.

2. The growth in use of synthetic rubber over the past two decades was largely the result of its price advantage in relation to the short supply and consequent high price of natural rubber. Natural rubber has retained a share of the market, however, because it has properties not possessed by styrene-butadiene rubber (SBR), the general purpose synthetic rubber, which makes it technically essential in certain end-uses such as heavy-duty truck and aircraft tires. On the other hand, SBR also has certain specific qualities, such as purity, not possessed by natural rubber and in addition enjoys forward linkages with manufacturers. It is considered that SBR and natural rubber are approaching an equilibrium position in the US, European and Japanese markets, and that further large-scale substitution of these commodities is improbable at foreseeable price levels.

3. The share of total rubber market secured by natural rubber will be far more sensitive in the future to development of polyisoprene and, to a lesser extent, polybutadiene rubbers which closely approximate the technical properties of natural rubber. Polyisoprene capacity so far is small, but the prospect of high natural rubber prices in the future would lead to installation of new capacity. It is therefore in the interests of the natural rubber industry to ensure a supply sufficient to keep prices below

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1/ All tons referred to in this Annex are long tons of 2,240 lbs.

the level at which investment in further polyisoprene capacity becomes attractive. It would seem that at the present time this level is about US¢20 per lb, with the possibility that technological improvements could lower this ceiling price to about US¢16.

4. The slow growth in supply of natural rubber in the past two decades has been due to many factors. The inherent supply inelasticity of natural rubber has been compounded by political and economic instability in Indonesia, previously the largest producer, and Indo-China. In addition, the socio-economic structure of the natural rubber industry, with the dominance of smallholders in some countries and foreign-owned plantations in others, is not conducive to long-term investment programs and sustained productivity increases. Only Malaysia, with a long-term research and replanting program, has achieved significant success in upgrading smallholder production and in maintaining and expanding the estate sector after the withdrawal of colonial control. Even in Malaysia, however, growth in output, at 6 percent annually, has barely kept pace with increased world rubber consumption (see Annex 9, Table 2.10).

5. There is, however, the possibility that the output of natural rubber will grow significantly faster over the next few years than in the past. This is due to three principal factors: (a) the considerable increase in Malaysian production that can be expected as a result of large scale replanting in the 1960's; (b) a partial recovery in Indonesian production as a result of rehabilitation of the estate section; and (c) the emergence of new ethylene-based yield stimulants and the possibility of their use on a wide scale. It is these factors that caused the International Rubber Study Group to conclude that there will be a notional excess supply of natural rubber of approximately 400,000 tons per annum by 1975. This figure was calculated on the basis of industry projections for planned expansion of capacity for polyisoprene production. As discussed above, however, a natural rubber price in the range of US¢16-20 per lb would discourage large scale polyisoprene expansion and a further decline of natural rubber's share of the total market would be unlikely. On this assumption, total demand for natural rubber in 1975 would be about 4 million tons (35 percent of total non-Soviet rubber consumption plus exports of 740,000 tons to the Soviet bloc). Projections of production in fact fall somewhat short of this figure (3.8 million tons -- see Annex 9, Table 2.7), although the estimate for non-Malaysian production does not make any allowance for the possible impact of new yield stimulants. A surplus of natural rubber by the mid-1970's does not appear likely, and there would not, therefore, seem to be any justification for curtailing expansion of natural rubber capacity.

Malaysian Production

6. The level of Malaysian rubber production in 1975 will be a function of: (a) the total area and yields of mature rubber, including that which is due to come into production - i.e. the area of rubber planted between 1963 and 1968; (b) the proportion of the total rubber capacity that will remain untapped because of low prices; and (c) yield improvements in existing trees

that might be achieved through the use of new yield stimulants or other practices. The level of replanting and new planting over the next five years will not have any effect on national output in 1975, except insofar as it takes mature rubber out of production, but will affect significantly output projections for 1980 and beyond.

7. The first factor - the total area of mature rubber in 1975 - is known with some accuracy. Immature rubber that is due to come into production over the next five years includes replanting by estates and smallholders (through the RI(R)B and otherwise) and new planting by smallholders, by federal and state settlement schemes and by private estates (see Annex 9, Tables 2.8 and 2.9). It can be seen that the estate acreage of mature rubber will increase very slightly over the next five years, although total acreage will decline as replanting with crops other than rubber continues. It is expected that all unselected seedling rubber on estates will have been replaced by 1975. The area of mature rubber on smallholdings will increase rapidly, as the peak replantings and new plantings of the early and mid-1960's come into production. Practically all new rubber entering production will be of high-yielding, bud-grafted clones, and the RRI estimates that average yields for all mature rubber will rise from 1045 lbs per acre in 1969 to 1280 lbs per acre in 1975 on estates, and from 720 lbs per acre to 940 lbs per acre on smallholdings.

8. The second factor affecting national output is the response of producers to rubber prices. The principal price effect is on the rate of investment in rubber; this is long-term and will have no influence on the level of production in 1975. In addition, however, there is a short-term price effect through the area of mature rubber that remains untapped when prices are low - i.e. when the revenue from the latex is insufficient to justify the costs of tapping. This short-term price effect is extremely difficult to estimate, as it varies with the yield level of the rubber and with the alternative opportunities for employment or income - i.e. with the opportunity cost of labor. Tapping intensity undoubtedly reflects world price levels in East Malaysia, where there is a shortage of labor, high wages and alternative employment in other sectors. It is quite probable, therefore, that a rubber price of US¢16 per lb would result in considerably reduced production in Sabah and Sarawak. Whereas the capacity for production from East Malaysia in 1975 will be around 85,000 tons, the actual production is likely to be below this. The short-term price effects are very much smaller in West Malaysia, where the supply of labor is ample and the alternative employment opportunities are few. However, estate labor in West Malaysia is organized and wages are relatively high; paradoxically, there is a shortage of skilled tappers in some areas. This may result in a tendency for estates to stop tapping old, low-yielding rubber when prices are low, although the same factors will, by reducing the mobility of labor, deter changes in employment practices in response to short-term price fluctuations. Smallholder response to prices in West Malaysia is likely to be rather small, and actual production of rubber is expected to be closeto capacity.

9. The third factor affecting output in 1975, that of new yield stimulants, is the most difficult to assess. The recent development of

ethylene-based stimulants, of which Ethrel is the one most commonly used at present, could have an enormous effect on yields, production and the cost-structure of natural rubber in all producing countries. The use of stimulants such as 2,4,5-T has been common practice for many years, but these chemicals have had a significant effect on yields for only a short time after application. The advantage of the new stimulants lies not only in the very high yield increases (40-100 percent) that have been obtained in field trials by the RRI, but also in the fact that these yields are maintained, with only slight declines, for several weeks after application. Very high yield increases have been obtained on the PB86 and RRIM 600 clones, with which a very large acreage is planted in Malaysia, and the proportional effect of the stimulant appears to be greater on older trees - i.e. those being tapped on renewed bark, panels C or D (the effect of Ethrel on yields is discussed below, paras 32-35).

10. The effect of Ethrel or similar stimulants on total production will depend on the extent to which they are adopted by growers as well as on the frequency and methods of their use. Experiments conducted by the RRI show that their use for two years has no apparent debilitating effect on the tree. Estates are willing to use Ethrel to the extent to which its suitability has been established by the RRI - i.e. at present they are prepared to use it on trees that are due to be replanted within two years. If experiments continue to be successful, by 1975 Ethrel may be used on trees up to seven years before replanting. If it is assumed that Ethrel will be applied by estates during the next five years only to trees above 25 years of age, and that its use will result in yield increases of 500 lbs per acre, then by 1975 this would result in an annual increase in production from estates in the order of 50,000 tons (assuming a 3 percent replanting rate). If confidence grows and its use is expanded or if the replanting rate is slower, then the incremental output will be greater.

11. Adoption of Ethrel by smallholders will be largely a function of the extension effort, which is directed by the RI(R)B and by the Smallholdings Advisory Service, and the credit facilities provided by the Bank Pertanian. It can be expected that Ethrel will be introduced on smallholdings to be replanted so that the level of latex production can be maintained with a smaller area of old rubber, allowing the remainder to be replanted without a loss of income to the smallholder. The target of the RI(R)B is to replant 120,000 acres of smallholder rubber annually over the next five years. Although this figure is optimistic, it is probable that the use of Ethrel can be introduced to 100,000 acres annually over this period through the replanting scheme. If yield increases of 200 lbs per acre are assumed for the poorer quality trees, then by 1975 the use of Ethrel on 500,000 acres of smallholder rubber would result in incremental production of about 50,000 tons annually.

12. On the basis of the above assumptions, total production of rubber in Malaysia in 1975 will be around 1.8 million tons, comprised as follows:

Table 1: PROJECTED RUBBER PRODUCTION IN 1975
('000 of long tons)

	West Malaysia		East Malaysia	Total
	Estates	Smallholders		
Projected capacity from mature acreage	751	934	85	1,770
Less: rubber remaining untapped	25	-	25	50
Add: effect of use of Ethrel	50	50	-	100
TOTAL	776	984	60	1,820

Source: RRI. Kuala Lumpur, and mission estimates.

13. Projection of production beyond 1975 requires some assumption to be made about the rate of replanting and newplanting in the estate and smallholder sectors, and about attainable yields. These are in turn a function of the economic and financial aspects of rubber production, the effect of new yield stimulants and government policy. These will be discussed below.

Economic Outlook

14. The projected price range for natural rubber of US¢16-20 per lb refers to the CIF price in New York. The Singapore FOB and farm-gate prices will be considerably lower and will be significantly below those of recent years (see Annex 9, Table 5.2 and attached Table 4). The financial and economic effects of these prices on producers, however, will vary among th three sub-sectors of the Malaysian natural rubber industry - estates, private smallholders, and smallholders on FLDA and other settlement schemes.

15. The estate sector has countered falling rubber prices in recent years by implementing large-scale replanting programs using high-yielding material produced by the RRI. It is estimated that by 1970 less than 10 percent of the estate acreage remained in unselected seedling rubber. Average yields rose from an estimated 490 lbs per acre of tapped rubber in 1955 to nearby 1100 lbs in 1970. Considerable advances have also been made in tapping and processing techniques and in improvements in labor productivity. With the improved breeding material and techniques now available, well-managed estates can continue to show profit even with a rubber price of US¢16 per lb. At this price, it would be possible for estates to cover all costs, including a replanting provision, with a yield of 1200 lb per acre (see attached Tables 5 and 6), while yields of 2000 lbs would allow a profit of about M$ 300 per acre.

16. Labor is the greatest single cost item in estate production of rubber, although considerable improvements have been made in labor productivity over the past twenty years. Improvements in tapping and collecting techniques are becoming available, and their adoption will lead to further reductions in production costs. Although its share is declining, the estate sector still supplies nearly 50 percent of total Malaysian production, and it is vital that this sector introduce the innovations necessary for commercial production to remain viable. A trend can be expected towards less frequent tapping and the use of polythene bags in collecting latex from estate rubber, and any efforts to maintain the level of labor inputs in estate production would be inappropriate.

17. The availability of new high-yielding clones (yields of 6000 lbs per acre have been achieved under experimental conditions), the possibility of introducing labor-saving techniques and the emergence of new yield stimulants together ensure that estate production of rubber can remain competitive in the future even with a rubber price as low as US¢16 per lb. It would seem, however, that long-term future expansion of estate production is likely to proceed much more slowly than in the past. Replanting on estates has slowed considerably, from an average rate of more than 60,000 acres per year between 1960 and 1964 to less than 30,000 acres per year between 1965 and 1969 (see Annex 9, Table 2.9). Although only a small area of unselected seedling rubber remains on estates, the differences in yield potential between the early high-yielding and the currently available material is considerable, and at the end of 1968 there was an estimated area of 440,000 acres of estate rubber more than 25 years old. A continuous replanting program is necessary if yield increases are to be maintained. With a total estate acreage of around 1.6 million acres, a 3 percent replanting schedule would require an annual replanting rate of 40-50,000 acres.

18. More important than the slow-down in the rate of replanting is the decline in the overall estate rubber acreage. Until 1968, this was largely the result of fragmentation of estates into units of less than 100 acres, which then were reclassified as smallholdings, but since 1966 there has been a decline in the total area of rubber (see Annex 9, Table 2.9). This decline has been due to the almost complete lack of new estate rubber planting since the early 1960's and the increase in the area of rubber that has been replanted with other crops, principally oil palm. These factors are a result of both the greater profitability of oil palm as a plantation crop and the general reluctance of foreign investors to increase their holdings in Malaysian agriculture. About 30 percent of the rubber estates in Malaysia are foreign owned, and they account for more than 60 percent of the estate rubber acreage and about 65 percent of estate production (1968 data). The emergence of oil palm as a profitable plantation crop has provided foreign companies with the opportunity to diversify their agricultural holdings, but the majority of estate oil palm (about 200,000 acres) is planted on old rubber land. This unwillingness of foreign companies to increase the overall size of their commitment is due to a lack of confidence in long-term commodity prices; to difficulty in obtaining new land and the high cost of opening it up; and to fears about social and political stability in Malaysia - fears that were greatly enhanced by the May, 1969, disturbances. It is clear from discussions

with the principal estate concerns that any expansion in the rubber acreage in Malaysia will have to come largely from outside the private estate sector.

19. Despite the considerable progress made in replanting individual smallholdings in recent years, one-quarter of the smallholder acreage continues to be in old, unimproved rubber and the average yield on smallholdings is well below that achieved on estates. Similarly, the price received by smallholders for their rubber is, on average, below that received by estates because of high processing and distribution charges, larger proportions of unsmoked and lower grade rubber and the obligatory payment of the replanting cess (which, at M¢ 4.5 per lb amounts to around 10 percent of the projected New York rubber price). This cess is collected on all smallholder production, and is channelled through the RI(R)B to finance replanting costs on smallholdings. However, it has principally benefitted the larger, more progressive smallholders as the smaller farmers, who are mostly Malay, are less able to withstand the short term loss of production and income that results from replanting.

20. In general, smallholders have relatively low cash inputs; labor, which is greater than on estates, is provided by the family and is not a cash expense. For the smallholder, therefore, the net income from rubber closely approximates the gross return and any reduction in this gross return, through lower prices, is translated directly into a drop in real income. In most areas, family labor has a very low opportunity cost and the introduction by the smallholder of the labor-saving techniques available to estates is of little value unless he can acquire more land to work with his released labor. Such acquisition is not possible for the great majority of smallholders, either individuals or on settlement schemes. This lack of flexibility in the availability of land and use of labor means for the smallholder that lower prices result in lower income. For the individual smallholder (example 1 in Table 6), a yield of 800 lb per acre and a New York price of US¢16 per lb would result in a net income of about M$ 190 per acre, or a farm income on five acres of about M$ 950 (this compares to earnings of a tapper on an estate of M$ 1200-1500 per year), without including any allowance for the capital cost of the holding or of replanting.

21. The smallholder sector, however, has undergone considerable changes over the past 15 years as a result of active government research, replanting and extension programs. Average yields on smallholdings grew from less than 400 lbs per acre in 1955 to more than 700 lbs per acre in 1969, and are expected to pass 900 lbs per acre by 1975 (see Annex 9, Table 2.8). This represents a much faster rate of growth than on estates. Smallholder replanting has averaged 60,000 acres annually over the past 15 years, and three-quarters of the smallholder acreage are now in high yielding varieties. The share of smallholder output has grown from 45 percent of total production in 1955 to 49 percent in 1969 and is expected to reach 55 percent by 1975. On many newplanted and replanted smallholdings, yields of 1500 lbs or more are being obtained which would result in a net family income of about M$ 400 per acre even with prices as low as US¢16 per lb. For the smallholder who has replanted, the increased production obtained with high-yielding varieties more than compensates for the likely fall in prices.

On the other hand, smallholders who have only unselected seedling rubber in very small holdings with poor management and low yields will suffer most severely from lower rubber prices. In some cases, however, these smallholders possess land in addition to their rubber holdings, and therefore have alternative employment opportunities and other sources of income. Nevertheless, it is necessary that this unimproved rubber be replanted as rapidly as possible.

22. The RI(R)B is planning to replant 120,000 acres of smallholder rubber annually over the next five years. If this program is successful, it will result in the replacement of all unselected seedling rubber with high-yielding material. Such a program, however, appears over-optimistic with respect to both the resources of the RI(R)B and the nature of the problem. Between 1959 and 1968, the rate of replanting averaged about 65,000 acres annually, with a rather slower rate in the last few years owing to a shortage of funds. At present, the farmer receives a replanting grant of M$ 750 per acre, consisting of M$ 450 from Fund B of the replanting cess and M$ 300 in the form of a grant from the federal government. The federal grant is due to be renewed in 1971 but, even if this occurs, it is unlikely that the target acreage will be achieved or even approached because of the size and structure of the smallholdings involved. These represent the "hardcore" smallholders - those with little land and few resources who have been unable or unwilling to replant before. The replanting grant covers all cash input costs but does not provide a sufficient margin for subsistence, and the very small farmers are therefore unable to forego the income lost while the new trees mature. The very small size of the holdings involved - mostly below 5 acres - will also increase the extension effort required.

23. Despite these difficulties, however, every effort should be made over the next few years to reduce the area of old smallholder rubber. With the encouragement of intercropping in newly planted rubber and with the possibility of raising yields from the remaining old rubber by the use of new stimulants, it is likely that a considerable proportion of this unselected rubber can be replanted, especially if the government should raise its grant to the RI(R)B to allow a higher replanting payment.

24. Additional measures are also necessary, however, to raise smallholder incomes. Some improvements can undoubtedly be made in the processing and marketing facilities available to the smallholder. In a study made by the RRI 1/ it was shown that margins between FOB and smallholders' prices in Selangor averaged M¢ 2.1 per lb for smoked sheet and M¢ 8.4 per lb for unsmoked sheet (about 80 percent is sold as unsmoked sheet). The price received by the smallholder is low because of unnecessarily high dealers' margins and because the quality of smallholders' rubber exported is unnecessarily low. These margins do not seem to decline with a fall in rubber price, and so become proportionally greater. Government measures

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1/ Lim Sow Ching, A Study of the Marketing of Smallholders' Rubber at the First Trade Level in Selangor, RRI, 1968.

to improve the price to the smallholder have gone through three phases. The first of these was the establishment of group processing centers where smallholders can, for a small charge, process their latex into smoked or unsmoked sheet. Most are small and cater for 20-40 smallholders who bring in 2-8 lbs dry rubber per day. There are about 700 group processing centers financed by MARA and privately owned, which handle about 10 percent of smallholder sheet rubber production.

25. While these centers succeed in obtaining a better price for the smallholder, they do not handle the poorer grades of rubber and are not able to produce the highest-quality sheet (RSS1). With the development of new processing methods for preparing block rubbers to be graded technically to Standard Malaysian Rubber (SMR) standards, a second phase opened. It was realized that by collectively processing smallholders' rubber in a central factory into new block rubbers, these could be marketed directly and the smallholder would receive a better return for his rubber. Thirteen such factories were established by MARA between 1962 and 1965, but inadequate management and poor smallholder response led to their closure. In 1966, however, the RRI took over two of these factories and converted them into Heveacrumb plants which accept all forms of rubber. Through these, the smallholder benefits both from scale economies and from the price premium currently paid for technically specified rubber. Although this premium is unlikely to continue, the benefits to the smallholder are considerable, and the RRI has shown that such factories can be successful if carefully managed and operated on a sufficiently large scale. Two new factories have been constructed, and all are being operated by the newly-formed Malaysian Rubber Development S.B.

26. The third phase of measures to improve the processing and marketing of smallholder rubber is derived from the scale economies attainable with central processing factories and the problems of collecting small quantities of latex from the very large number of smallholders that would be necessary to support a large factory. It is now considered preferable to construct large terminal factories at the principal ports (Swettenham, Butterworth and Johore Baharu) and to feed these with part-processed rubber through the existing network of private dealers, cooperatives and group processing centers. In this way, smoked and unsmoked sheet, cuplump and scrap as well as coagulum could be processed at a large efficient factory into technically specified rubbers. This would ensure that smallholder rubber is finally sold in the most highly-priced form and would allow bulk production of rubber aimed at the mass markets. Such terminal processing centers are still at the conceptual stage, but their construction should ensure that the smallholder gets a better price for his rubber.

27. While replanting and improved processing facilities are necessary to raise smallholder incomes, any long-term program must also include measures to increase the size of smallholdings. The total smallholding area of about 2.6 million acres is distributed among about 390,000 holdings, of which individual smallholdings (i.e., those not in state or federal settlement schemes) number about 275,000 with an average size of 6.4 acres. It is estimated that more than 80 percent of smallholdings have less than 10 acres,

and about half of these have less than 3 acres (proportions derived from the 1960 Agricultural Census) 1/. Clearly, holdings of this size will not provide an adequate family income at the projected rubber prices. It can be seen from the following table that with yields of 800 lbs a holding of fewer than 9 acres fails to provide an income comparable with that obtained by tappers on estates. If smallholders are to have the opportunity of earning incomes comparable with those of other sectors, then holdings of at least 12-15 acres will be necessary.

Table 2: NET FARM INCOMES ON SMALLHOLDINGS WITH NEW YORK RUBBER PRICE OF US¢16 PER LB

Size of Holding	Yield Per Acre	
	800 lb	1,200 lb
	(M$)	
3 acres	570	890
6 acres	1,150	1,770
9 acres	1,720	2,660
12 acres	2,300	3,550
15 acres	2,860	4,440

Source: Calculated from Table 6, Example 1.

28. The difficulty of providing such holdings will be enormous. If even the existing individual smallholders are to be provided with 9-acre holdings, then an additional 700,000 acres of land would need to be opened up; this would make no impression on the existing unemployment and the future population growth in the smallholder sector. The total acreage of new rubber land opened for smallholders since 1955, including all settlement schemes, amounts to less than this area. Such a task has to be attempted, however, if a significant improvement in incomes is to be achieved in the smallholder sector.

29. Many of the problems facing individual smallholders also apply to smallholders on settlement schemes. There are three major types of settlement schemes: (a) Federal Land Development Authority (FLDA) projects, in which large blocks of land are cleared, planted and settled under strongly-centralized management: (b) state block new planting schemes operated by state governments in which settlers are given varying degrees of assistance to settle on new land; and (c) fringe schemes, in which state governments assist smallholders to open up new land nearby to supplement income from existing holdings (these and other schemes are discussed in detail in Annex 8). The size of holding varies, from about 4 acres on fringe schemes to about 6 acres on state schemes and 8-10 acres on FLDA projects, and so too

1/ This Census, however, covered only 0.9 million out of a total of 1.7 million acres of smallholdings; it is thought that the majority of the remaining 0.8 million acres would have been in the larger size groups (Barlow and Chan Chee-Kheong, 1968).

does the degree of debt incurred by the settler. Current FLDA rubber schemes cost the settler about M$ 1,500 per acre plus 6-1/4 percent interest amounting to an annual per acre charge of about M$ 230 (see attached Table 5).

30. While many of the state and fringe settlement schemes have had only limited success, the FLDA schemes have been very effective in getting land into production and in settling smallholders. Through strong central control and generally good management the rubber has been well maintained and good yields have been obtained. On the Jengka project in Pahang, rubber yields are projected to reach 1,500 lbs per acre. Smallholders on settlement schemes should also, in theory, receive a higher price for their latex because of the benefits obtained with centralized processing, production of SMR products and accurate grading. In many cases, however, settlers prefer to sell latex to merchants outside the project area in order to receive cash.

31. Some of the social problems on FLDA schemes are discussed in Annex 8. These include the lack of alternative employment opportunities for settlers, who are probably more limited in this respect than individual smallholders outside settlement projects; and the fixed size of holding, now ten acres, which allows no opportunity for expansion as the family labor supply increases. In this respect, the settler is no more able to take advantage of labor-saving techniques than is the individual smallholder, and there is the same necessity to increase the size of holding on settlement schemes. One family will, in the foreseable future, be able to operate 14-16 acres of rubber, and the FLDA should anticipate this changing technology by giving larger units on future schemes. As settler communities grow and the demand for services expands, alternative employment opportunities will expand. With projected rubber prices, however, the settlers' difficulty in meeting high debt repayment charges will continue. The FLDA is currently examining methods to improve the efficiency of its operations, and this should result in lower costs for future schemes. Costs could also be reduced substantially if emphasis could be given to bringing rubber into production earlier than the seventh year (private estates have succeeded in beginning tapping in the fifth year).

Yield Stimulants

32. The use of 2,4-D type stimulants is common practice on rubber estates in Malaysia. Since 1968, however, new yield stimulants have become available with considerably greater yield potential than those currently in use. The RRI has made a concerted research effort over the past two years to test the effectiveness of the most promising of the new stimulants, Ethrel, and the findings of these experiments to date are encouraging. In a conference held by the RRI in 1970, it was concluded that Ethrel is a superior stimulant on most planting materials to 2,4,5-T, which is currently used. It is especially good on reduced intensity tapping systems using shorter cuts or less frequent tapping. The responses obtained have been greater on renewed bark (Panels C and D) than on virgin bark (Panels A and B). Of special importance are the striking results obtained with Ethrel on clone PB86 and Tjir 1 seedlings, where yields have been more than doubled. PB86 is the most widely planted clone and large acreages are to

be found in the older replantings on estates. Tjir 1 seedlings were most popular when the replanting campaign first gained momentum in smallholdings. The widely-planted RRIM 600 series of clones has also shown a marked response to Ethrel. Results so far suggest that Ethrel causes little or no damage and does not produce dryness, but the effects over periods of more than eighteen months are not yet known 1/.

33. These results, however, have to be interpreted with some caution because: (a) the experiments have only been run for a short time; (b) the effect varies very widely between the different planting materials and the panel being tapped; and (c) incremental production should be examined not in relation to unstimulated yields but to yields obtained with 2,4,5-T. In this last respect, it can be seen that the yield increases obtained with Ethrel on virgin bark are barely superior to those produced by 2,4,5-T. It is also worth noting that the use of Ethrel resulted in a small but consistent reduction in the dry rubber content of latex; while this could be corrected by less-frequent applications of the stimulant, this would lead to smaller yield increases.

34. Despite these qualifications, however, Ethrel clearly has very great potential for increasing rubber yields. Three characteristics are particularly significant: (a) its greater effect on old trees - those being tapped on renewed barks; (b) its large effect on the very widely planted PB86 and RRIM 600 series clones and on Tjir 1 seedlings; and (c) its effect on maintaining and increasing yields under lower tapping intensities and frequencies. When these characteristics are considered in the context of declining rubber prices and the disinclination of the estate sector to invest further in rubber, then the potential significance of Ethrel and other similar stimulants is apparent. The greatest cost in estate production of rubber is labor, and tapping trees only every four or six days (d/4 or d/6) compared to the normal frequency of two days would result in a considerable saving in tapping costs (which comprise about 50 percent of total estate costs). Ethrel offers the possibility of reducing tapping and at the same time increasing yields. Similarly, the effectiveness of Ethrel on old trees provides estates with an alternative to the high costs of replanting. If Ethrel can double yields on 25-year old trees, then the economic necessity of maintaining a 3 percent replanting program is lessened. The effect of the use of Ethrel over a number of years is not known, but it is likely to lead to considerable changes in estate management.

35. For smallholders, the advantages of Ethrel are somewhat less. The cost of the stimulant (approximately M$ 40 per acre per year) is a large addition to the current level of cash inputs. While the proportional increase in yields is probably just as high on smallholdings as estates, the actual increases are considerably smaller because of the poorer planting material. The financial advantages of using Ethrel will not, therefore, be

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1/ These conclusions are taken from a paper presented by P. O. Abrahams at the RRIM Planters' Conference in Kuala Lumpur in July 1970. Some experimental results are summarized in attached Table 7.

as pronounced. In addition, the effectiveness of Ethrel in maintaining yields with a lower tapping frequency is of little value to the smallholder who has no alternative employment opportunities for his labor. In one respect, however, Ethrel could be of great importance to smallholders and this is through its use to maintain family income levels from a smaller area of rubber while the remainder is being replanted. The use of Ethrel could therefore become an important tool in future smallholder replanting programs.

Government Policy

36. Production of natural rubber in Malaysia can be expected to grow rapidly in the next five years as a result of investments made in the 1960's, but this past rate of investment is not likely to be continued because of the general reluctance of the estate sector to increase financial commitments. In the longer term, therefore, there is likely to be a slowing in the growth of Malaysian production, despite the potential of new yield stimulants. As a reduction in the rate of growth of output beyond 1975 would result in slower growth of rubber export earnings and government revenues, it is in the interests of the Malaysian economy to continue expansion of the rubber industry. As further expansion of the estate sector is unlikely, future growth will depend very largely on increased smallholder production, and to achieve this it will be necessary to both raise productivity of the existing smallholder acreage and to increase the rate at which new land is opened up for rubber. The government has an active and direct role to play in both these respects.

37. Future productivity increases in the smallholder sector will depend on continued replanting with high-yielding material and the introduction of improved technical and managerial practices. The RI(R)B which, together with the Smallholdings Advisory Service, is responsible for the success achieved to date in smallholder replanting, has an ambitious program for the next five years, but for reasons discussed above (paras 22 and 23) the target of 120,000 acres per year is unlikely to be achieved. It is essential, however, that this program be implemented as ae tively as possible. To this end the government should ensure: (a) that the supply of federal funds is renewed in 1971 to allow the grant element (M$ 300) of the replanting payment to be continued or, if possible, increased; (b) that the RI(R)B introduces measures to maintain family incomes while replanted rubber matures. Such measures should include intercropping immature rubber with annual cash crops and the use of Ethrel to raise yields on old rubber that has not been replanted. This will involve supplying planting material and other inputs as well as technical assistance; (c) that the establishment of group processing centers and central and terminal processing factories is accelerated to improve the price received by smallholders for their rubber and so alleviate the effects of lower world prices; and (d) that longterm programs are introduced to raise the size of smallholdings, through settlement schemes operated by the FLDA, FELCRA, the RI(R)B and the states.

38. With the exception of this remaining area of smallholdings, replanting of seedling rubber is nearly completed and, although new material has considerably greater yield potential than old clones, second phase re-

planting in the future will not have the same impact as in the past. Improvements in yields cannot, therefore, be expected to continue beyond 1975 at the same rate as in the past (4.9 percent annually between 1955 and 1969). Although new stimulants can be expected to have a one-time impact on production, an expansion of total rubber acreage is essential if growth in output is to continue at past rates. For Malaysia to maintain its share of the market, production must continue to grow at 6-7 percent annually which, assuming a 3 percent rise in yields, will require an annual increase in acreage of around 150,000 acres. As already discussed, this increase will have to be achieved very largely in the smallholder sector.

39. Smallholder newplanting of rubber has averaged about 42,000 acres annually over the past 15 years, although this declined to about 22,000 acres annually over the past five years. The peak rate achieved was in 1962, when 109,000 acres were newplanted. Of the total 625,000 acres newplanted between 1955 and 1968, about 130,000 acres have been on FLDA projects while fringe schemes have accounted for a similar area. Block newplanting and other subsidized schemes have accounted for another 70,000 acres while unsubsidized block and individual newplantings have made up the balance. Both federal and state agencies are also planting large areas of oil palm which, because of its better price prospects and greater profitability, is receiving priority in distribution of funds, personnel and land. The FLDA plans to develop about 50,000 acres of new land annually over the next five years, of which more than half is likely to be planted in oil palm. The combined efforts of existing federal and state agencies under current programs will only result in about 30,000 acres annually being planted in rubber. There is enough land to support a much faster rate of newplanting (an estimated additional 7 million acres would be suitable for tree crops in West Malaysia alone) but development is restricted by shortage of managerial and technical personnel, lack of capital and difficulties of land alienation. If the rate of rubber newplanting is to be increased, then these restrictions must be removed.

40. The difficulties of land alienation revolve around the complex problem of federal-state relationships, which is discussed in Annex 8. It is in the national interests that land should be available to anybody interested in developing it for agricultural purposes, and, conversely, that land so alienated should be used for this purpose and not allowed to stand idle. However, any federal policy on this issue must take account of the importance of land alienation as a source of revenue to the states, and should also ensure that land is alienated for its optimum use as defined by the Land Capability Survey. The present policy regarding land alienation and development does not fulfill these functions, and changes should be made along the lines suggested in Annex 8.

41. The scarcity of managerial and technical personnel is probably the major constraint to an expansion of FLDA activities, and it is certain that a large increase in rubber newplanting cannot be achieved with the existing resources of the public sector. There is, however, a considerable supply of managerial and technical skills in the private estate sector which, because of the slowing of estate investment, will be underutilized in the

coming years. The government should take steps to tap this resource by utilizing estate personnel on a contract basis. It should be possible to expand considerably the rate of land development by FLDA and the other agencies if the managerial, technical and supervisory work is contracted to individuals or companies in the private sector.

42. The cost of cleaning land and establishing rubber is about M$ 1,000 per acre, to which must be added the cost of providing services for settlers or laborers and of constructing access roads. This last item is becoming more costly as new land is increasingly isolated from the existing road network, and it is this cost more than any other which deters estate investment in newplanting. FLDA projects, which are generally more expensive than private development, require an investment of about M$ 1,500 per acre to develop and settle land, excluding the provision of settler services such as water, etc. Clearly, an increase in the rate of newplanting will be more feasible if investment costs can be reduced. Such reductions are possible both through increasing the efficiency of FLDA operations and through implementing land development and settlement schemes on a less centralized, less capital-intensive basis. Measures are being taken to lower costs of FLDA schemes and it is to be hoped that these will result in a smaller debt burden for future settlers. However, because of the lack of success of less intensive projects in the past, too little attention is being given to new forms of land settlement, even though it is clear that the FLDA, even with use of private sector resources, is unlikely to be able to develop land as fast as is desired. The importance of developing more land for rubber is such that a serious attempt should be made to settle land through new public settlement programs that supplement FLDA schemes.

Conclusions

43. The Malaysian natural rubber industry is faced with a rapidly growing market but also a world price that will squeeze profitability. While short-term supply prospects are good, the long-term expansion of production will depend on aggressive government action to replace the initiative traditionally provided by the estate sector. Issues on which government action is necessary are:

(a) Pressures to increase employment in the rural sector must not be allowed to interfere with continuing improvements in efficiency and cost reductions in the estate sector. At the same time, pressure should be put on estates to continue their replanting programs, and legislative and bureaucratic obstacles to expansion of estate acreage should be removed.

(b) Replanting of smallholder rubber must continue as fast as possible. The federal grant to the RI(R)B should be renewed in 1971, and intercropping should be introduced and the use of Ethrel encouraged to alleviate short-term financial problems resulting from replanting.

(c) Efforts to improve the processing and marketing of smallholder rubber should be continued, especially through the establishment of new central processing and terminal Heveacrumb factories.

(d) A long-term program to expand the acreage of smallholder rubber should be undertaken in order to ensure future growth in supply and foreign exchange earnings and to raise the real incomes of smallholders by increasing the average size of holdings. FLDA lacks the capacity to raise its rate of land development and this capacity should be increased by utilizing estate managerial and technical personnel on a contract basis.

(e) The present system of land alienation should be rationalized in order to encourage private land development for rubber and other agricultural uses.

(f) The debt burden to FLDA settlers should be reduced by improving the cost efficiency of FLDA operations and by bringing rubber into production more rapidly. This would be aided by requiring new settlers to give up any land already held in part payment for the new holdings. The land so acquired could be redistributed to other smallholders in the area. Holdings on new FLDA schemes should be increased from the present 10 acres to at least 14 acres.

(g) Attempts to raise the rate of rubber newplanting should include the implementation by FELCRA or state agencies of lower-cost, less-intensive land development schemes along the lines of early block and fringe schemes.

B. Oil Palm

World Situation

44. The market prospects for oil palm products (palm oil, palm kernels and palm kernel oil) are influenced by the overall oils and fats situation and the specific position of oil palm products vis a vis other fats and oils. World production of all oils and fats grew by an average of 3 percent annually between 1954/56 and 1967/69, while in the same period exports increased slightly faster, at 3.7 percent annually. The developed and centrally-planned countries increased their share of total exports, largely through increased exports of soybean oil from the US and of sunflower oil from the USSR, while the share held by developing countries declined. The general price index for all oils and fats has remained fairly stable, reaching a low in 1962 and 1968 and peaking in 1965 and again in 1970. Total consumption of all oils and fats is projected to grow at between 2.5 percent and 3.0 percent annually over the next 15 years, while exports are expected to rise somewhat faster,

Mr. Raymond J. Goodman September 27, 1971

Bengt G. Sandberg

MALAYSIA AND THE U.S. RUBBER STOCKPILE

In his memorandum of August 12, Mr. Navaratnam informed Mr. Knapp that Minister Tun Tan Siew Sin might want to consult with Mr. McNamara during the Annual Meeting on the rubber situation, especially the adverse effects on Malaysia caused by the stockpile releases of the U.S. General Services Administration (GSA).

Background

As of June 30, 1971 the U.S. Government natural rubber stockpile amounted to about 142,000 long tons most of which will eventually be disposed of by the U.S. Government. The annual releases have gradually declined from 159,000 long tons or about 4 percent of world natural rubber supplies in 1966 to 100,000 long tons in 1967, 74,000 long tons in 1968, 35,000 long tons in 1969 and 28,000 long tons in 1970. In their attempts to stabilize the prices at a more remunerative level the Malaysians have considered it essential to gain some control over these releases. They have discussed this matter on several occasions with the U.S. Government as well as with the Bank and the Fund.

When Tun Tan saw President Johnson in Washington in October, 1967, he expressed an interest in acquiring control over the U.S. stockpile. He was told that to do so Malaysia (possibly in conjunction with other rubber producing countries) would have to buy the stockpile. The U.S. offered to sell the whole stockpile for an estimates US$120 million, US$48 million to be paid immediately and the rest over 5 years in quarterly payments each amounting to the value of 17,500 long tons calculated on the basis of New York spot price on the first day of each quarter. The U.S. also offered Malaysia a five-year Export-Import Bank loan to finance the US$48 million downpayment. As collateral for this loan Malaysia would have had to buy Export-Import Bank participation certificates using funds not already invested in US securities. Malaysia found these terms too onerous and began looking for other sources of finance.

In December 1967 Tun Tan asked Mr. Woods for a Bank loan to finance the purchase of the US stockpile. In a letter dated January 29, 1968, Mr. Woods declined the request

During his meeting with Mr. McNamara in Copenhagen in 1970 the Minister again asked the Bank to consider making a loan for the purpose of establishing a rubber stockpile by buying the GSA stockpile. Mr. McNamara doubted that the Bank could consider such a proposal unless accompanied by a whole set of arrangements to control the buffer stocks, although he recognized the need for more stability of primary products, including rubber

Recent Development

Last year's release by GSA of 28,000 long tons of natural rubber was spread over a period of four months (May - August). The rubber price declined continuously during 1970 from a level of 25 US cents per pound in January to 18 US cents in October 1970 because of weak demand from major buyers. Major factors were the dock strike in the UK and the overall economic recession and protracted strikes against General Motors and major tire manufacturers in the US.

In February 1971, the Association of Natural Rubber Producing Countries (A.N.R.P.C.) 1/ set up a working committee "as a first step to finding a solution to releases from the US rubber stockpiles depressing the world market price of rubber". So far no other measures have apparently been suggested except for periodic meetings of the Executive Committee of the Association to discuss current developments. Also in February the US reportedly agreed to defer until June sales from its rubber stockpiles planned to be resumed in March 1971. The US apparently also agreed in general terms to consult rubber producing countries before future sales.

On July 7, 1971, GSA announced that beginning July 19 it would resume the sale of natural rubber from its stockpile at a monthly rate of about 6,000 long tons of rubber, with a maximum annual release of 72,000 long tons. The release would be only for consumption within the U.S. The stockpile, as mentioned above, was at that time 142,000 long tons.

Contrary to previous releases, this year's release program specifies not only the magnitude of sales but provides also for a price floor. The stocks are to be released by GSA at a selling price not below the average of the daily Rubber Trade Association price for RSS1 in the preceding month. Since rubber prices have been declining again, especially over the past three months (average price in New York: May 20.3 US cents/lb., June 18.7 US cents/lb.), there were some doubts whether this procedure is going to work. However, GSA managed to sell in July the total 6,000 long tons of rubber declared surplus for release at 17.75 US cents/lb. probably because domestic buying in the US has been stronger in the past months because of the possibility of a prolonged strike by US dockworkers in September.

Two weeks after the announcement of the resumption of U.S. stockpile releases, the A.N.R.P.C. asked that monthly releases be reduced to 3,000 long tons. The U.S. Government reportedly noted the A.N.R.P.C. request but GSA has sold again in August its full monthly quota of 6,000 long tons.

1/ Inaugurated in October 1970. Its founder members Ceylon, Indonesia, Malaysia, Singapore, Thailand and Vietnam together account for more than 85 percent of world production of natural rubber.

By the middle of August, Malaysian rubber prices had fallen to the lowest level since 1949, and combined Malaysia-Singapore unsold stocks, which had increased from 35,000 long tons at the end of 1969 to 206,000 long tons at the end of 1970, had continued to rise further. In this situation there was some speculation that Malaysia might intervene to support the market. Recent information indicates however that massive intervention by the Government to halt the slide in prices is unlikely, partly because of the difficulties involved in financing such an operation. Also some recovery of rubber prices in the U.S. may indicate the downward price trend has reached the bottom.

Malaysia also hopes to make substantial sales of natural rubber to the People's Republic of China following the recent resumption of close trade relations between the two countries. A Chinese trade mission that visited Malaysia in late August announced the immediate purchase of 40,000 long tons (mainly RSS1) on an undisclosed agreed price formula. The mission mentioned future annual requirements of 150,000 - 200,000 long tons. However, no firm commitment of more purchases was made at this point, although it was agreed that Malaysia would send a team to China to advise on the application of SMR 1/ to Chinese usage.

The Annual Conference of A.N.R.P.C. which convened in Jogjakarta in Indonesia during the first half of September reportedly gave special attention to the rubber stockpile problem. Other prominent topics included the establishment of a joint regional marketing system and the fast rising shipping freight rates which also threaten the competitiveness of natural versus synthetic rubber in the major industrialized countries. The countries attempted to work out a joint stance on the major issues for the meeting of the International Rubber Study Group in Ottawa (September 20-24). Mr. Irfan ul-Haque (Economics Department), who represented the Bank at the Ottawa meeting, told us, however, that nothing significant transpired from the meeting on any of the major issues and the question of the U.S. stockpile releases was not even discussed.

In addition to the uncertainties mentioned above, the present unsettled conditions in international financial relations make it very difficult to forecast rubber price developments. However, the attached table (Attachment 1) gives some idea about the magnitudes of the international rubber market as estimated for 1972 by the International Rubber Study Group. It seems clear that the planned annual GSA sales (73,000 mt), which amount to only 2.4 percent of the estimated total world supply of natural rubber in 1972 or about 5.5 percent of total Malaysian supply or 12 percent of the US consumption of natural rubber, are likely to play only a minor role in determining the price of natural rubber over the next year or so. Movements of U.S. natural rubber prices as well as trends in supply, consumption and stocks of natural rubber in the U.S. are shown in the graphs of Attachment 2.

1/ Standard Malaysian Rubber.

cc: Messrs. Fontein, Street, Gilmartin,
Hablutzel, Lee

GHReif/BGSandberg:bjc

Attachment 1

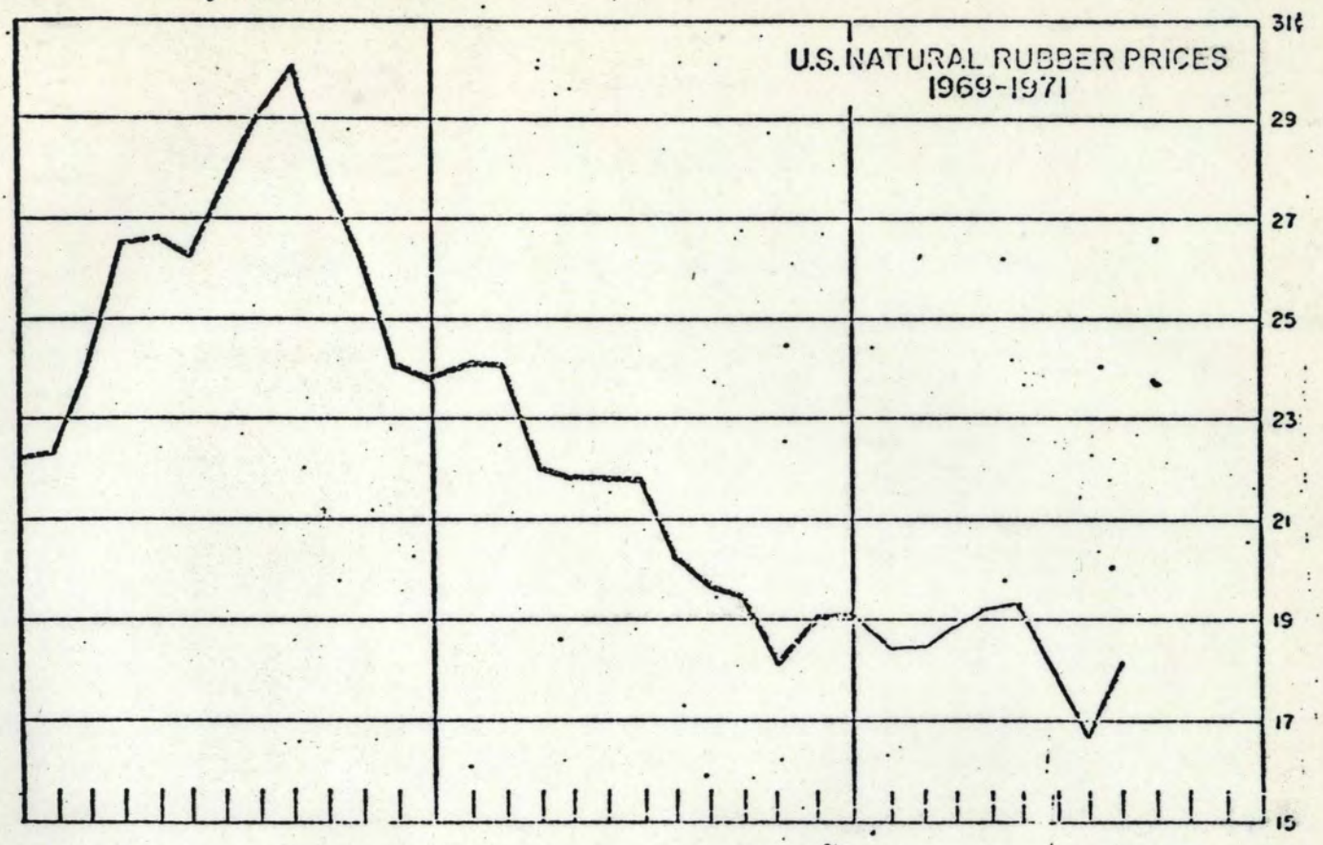
World Rubber Market in 1972
(in metric tons)

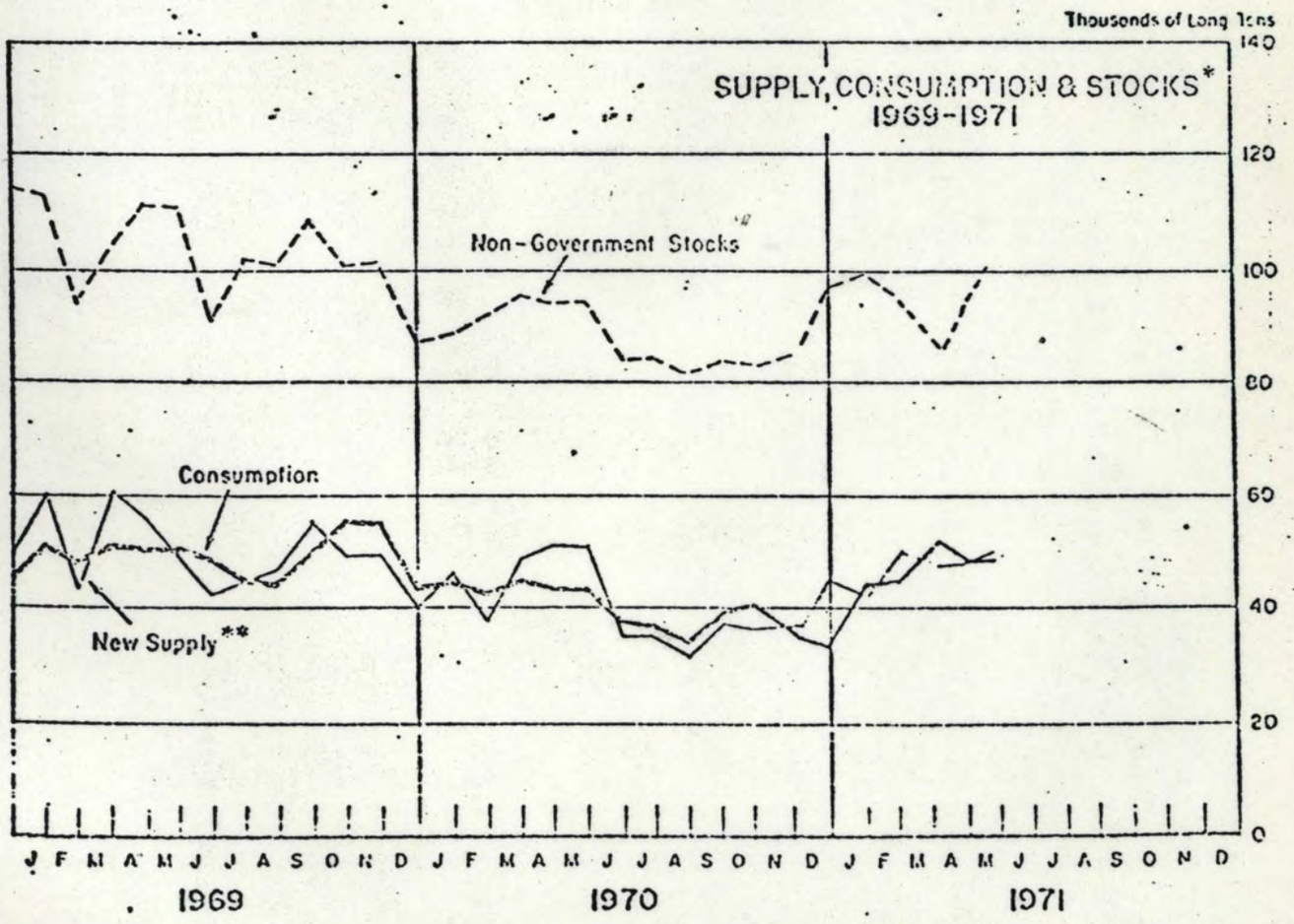
I. Estimated Supply	
Natural Rubber	3,060,000 mt
thereof:	
Malaysia	1,360,000 mt (44%)
Indonesia	810,000 mt (26%)
Thailand	300,000 mt (10%)
Ceylon	166,000 mt (5%)
	2,636,000 mt (85%)
Rest	424,000 mt
(Supplied primarily by India, Nigeria, Liberia, Vietnam, Brazil Cameroon, and Ivory Coast).	
Synthetic Rubber	5,265,000 mt
thereof:	
U. S.	2,425,000 mt (46%)
Japan	760,000 mt (15%)
Total Supply	8,325,000 mt
II. Estimated Consumption	
Natural Rubber	3,085,000 mt
thereof:	
U. S.	600,000 mt (19%)
Japan	295,000 mt (10%)
Synthetic Rubber	5,105,000 mt
thereof:	
U.S.	2,200,000 mt (43%)
Japan	550,000 mt (11%)
Total Consumption	8,190,000 mt

Source: International Rubber Study Group.

Attachment 2

MONTHLY FACT CHART ON U.S. NATURAL RUBBER PRICE/SUPPLY STATUS





* Including Liquid Latex

** Calculated Non-Government Owned Supply

NATURAL RUBBER BUREAU

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

INTERNATIONAL DEVELOPMENT ASSOCIATION

OFFICE MEMORANDUM

TO: Mr. L. J. C. Evans DATE: December 30, 1970

FROM: R. E. Rowe and A. R. Whyte

SUBJECT: MALAYSIA - Jengka Triangle Project (Loan 533-MA)
2nd Jengka Land Settlement Project (Loan 672-MA)
Supervision Mission
Full Report

In accordance with our Terms of Reference of October 6 (for Mr. Whyte) and November 6 (for Mr. Rowe) we visited Malaysia to review progress on the two Jengka Triangle Land Settlement Projects.

Project Data

1.1

	Loan 533-MA	Loan 672-MA
Amount of Loan	US$ 14.0 million	US$ 13.0 million
Amount Disbursed	US$ 3.4 million	US$ 0.06 million
Date of Loan Agreement	April 17, 1968	May 20, 1970
Effective Date	July 31, 1968	August 20, 1970
Closing Date	December 31, 1975	May 31, 1977
Date of Last Supervision Mission	March 1970	May 1970
Current Exchange Rate	M$1 = US$0.33	

1.2 The projects consist of:

Loan 533-MA (Stage 1)

(a) Clearing about 33,000 acres of land in the Project area, planting about 23,800 acres of oil palms and 4,200 acres of rubber; and settlement of some 2,800 families;

(b) Expansion of the processing capacity of the Ulu Jempol palm oil mill and construction of a new mill in the south of the Project area to provide an aggregate processing capacity of about 280,000 long tons of oil palm fresh fruit bunches annually;

(c) Establishment of an agricultural research station to service the facilities in the Project area and on other FLDA settlements and provision of training facilities for FLDA management.

Loan 672-MA (Stage 2)

(a) Clearing about 32,000 acres in the Project area, planting about 16,800 acres of oil palms and 13,600 acres of rubber, and settlement of about 3,000 families;

(b) Reservation of about 1,400 acres for development of a Regional Center;

((c) Construction of a palm oil mill with an initial capacity of 24 tons ffb an hour and its expansion to a capacity of about 42 tons ffb an hour;

(d) Use of about 700 acres of the FLDA Research Center, Tekam, for crop diversification trials on a commercial scale.

Both projects include provision of villages, houses, offices, and stores together with appropriate roads, water systems and educational, health and other social service facilities as well as office accommodations, stores and other management facilities. Each settler family will be provided with ten acres of oil palms or rubber and a house on a one-quarter lot.

1.3 The projects are being carried out by the Federal Land Development Authority, a Government statutory body.

Summary

2.1 Field progress and work standards on both projects are generally satisfactory but village development and settlement on Stage 1 is far behind schedule. The delays are not critical but should not be allowed to worsen (para 4.3).

2.2 The extensive clearing in Jengka has reduced rainfall, and production both at Jengka and in surrounding schemes could be affected until plantings replace the natural forests. A study should be made to determine whether Stage 3 should be delayed and Stage 2 phased over a longer period to avoid creating adverse climatic conditions (para 6.1).

2.3 Appraisal yield estimates appear likely to be achieved and extraction rates may be exceeded but fresh fruit bunch (ffb) collection on other FLDA schemes is poor because of unsatisfactory contractor performance (para 7.2). FLDA should review its contractual arrangements for fruit collection and also for field work, which in some cases has resulted in poor standards (para 11.6).

2.4 Total project costs appear to be running about 8% above appraisal estimates for Stage 1 and about 5% for Stage 2. Substantial expenditures on Stage 1 were incurred before loan signature and so were ineligible for disbursement; thus, disbursements to the end of 1970 are expected to be only 75% of the appraisal estimate but should catch up by the end of 1972. Disbursements on Stage 2 are expected to lag behind appraisal estimates, due to overestimates of the rate of expenditure, until the end of 1973 (para 10.1).

2.5 The recently appointed Finance Director has recommended management consultants to review FLDA's financial systems. It is proposed that part of the cost of consultants employment be financed under Loan 672-MA (para 11.1).

2.6 The Jengka Division is seriously understaffed and far below appraisal estimates. This has led to a lack of delegation to the Division and to heavy pressure on Division Staff. Staffing and overcentralization are problems for the FLDA as a whole and a study is proposed of FLDA's organization, recruitment and training, and staff terms of service (para 11.5).

2.7 The marketing study required to be carried out under Loan 533-MA and financed by ADB has proved valueless and a second study is required. Terms of Reference are being prepared for submission to the Bank (para 12.1).

Action Recommended

3.1 It is recommended that a letter be sent to Government conveying the mission's findings and recommending action on:

- village development, including responsibility for building maintenance;
- the effect of clearing on climatic conditions;
- irrecoverable settlers' loans;
- FLDA's organization and staffing;
- a further marketing study;

and to FLDA on:

- use of "green-budding" rather than seed at stake for rubber plantings;
- contracting arrangements.

Drafts are attached.

3.2 The next supervision mission should be in May/June 1971.

Physical Progress

Stage 1

4.1 Land Development. Bar Chart 1 compares actual progress by end-November with the appraisal schedule. Land clearing, agricultural roads and planting have been completed on 18,670 acres; planting is virtually complete on a further 3,830 acres (Scheme V), is well underway on the 4,160 acres of Scheme VII, and will start soon on the 1,100 acres of Scheme III, Phase III, and 2,850 acres of Scheme VI, Phase II. With the onset of the monsoon, planting conditions are good and all planting should be complete by end-February 1971, with an outside chance that it will be within the target date of December 31, 1970. By the end of February, 26,350 acres will have been planted with oil palms (appraisal estimate 23,800 acres) and 4,160 with rubber (appraisal estimate 4,200 acres). Although a few schemes (Schemes III, IV and V) have fallen a year behind schedule, overall progress, combined with the good standards of work, has been satisfactory.

4.2 Village Development. Bar Chart 2 shows that access roads, village roads, water supplies, settlers houses and staff quarters are well behind schedule. Work is virtually completed on Schemes I and II but 24 months late on Scheme I and 12 months late on Scheme II. Apart from access roads, no work has begun on Schemes III, IV and V, which were scheduled for completion by end 1970; they will now not

be completed before end-August 1971. Scheme VI and VII infrastructure is due for completion by end-December 1971 but no work other than access roads has started.

4.3 At present these delays are not critical as settlers' arrival is to some extent delayed anyway by the lags in the planting program, and maintenance is carried out by contractors instead of by settlers. But the Government should be told of the Bank's concern over the slow progress on infrastructure and give assurance that every effort will be made to meet the new target dates in Bar Chart 2.

4.4 Project headquarters at the FLDA Research Center, Tekam, is almost complete; some staff are in residence and the Jengka Director will move in early in 1971.

4.5 Settlement. At appraisal 2,000 settlers were assumed to be in occupation by end-1970. By end-November only 147 settlers had moved in to Scheme I and 155 to Scheme II; 250 more families are due on Scheme II before end-1970. Total population on both schemes is 1,464.

Stage 2

4.6 Land Development. Scheduled and actual progress is shown in Bar Chart 3. Progress on Scheme VIII, the only one started, is 3-4 weeks behind schedule.

4.7 Village Development. No work has started but logging roads for the forestry project (see supervision report of November 30, 1970 on Loan 673-MA) are being built to access road standards and aligned according to FLDA needs.

4.8 Research Center. FLDA is making some progress in diversification trials at the Research Center, Tekam, but is still far short of commercial scale trials. About 120 acres have been set aside for cocoa, of which 50 are planted; there are some 350 head of cattle - including 7 bulls - and 14 species of pasture are being tried on 150 acres. In addition, fruit trees are being grown for settlers. Besides these activities, the research center carries out oil palm trials and foliar analysis. Progress on diversification and other work should be followed closely by subsequent supervision missions.

Quality of Work

5.1 Land Development. Standards are good except on Scheme V where management has had considerable trouble with the contractor (see previous supervision reports). Not only is work there 12 months behind schedule but oil palm planting has been poor (much of the area has had to be replanted), and a large part of the area has an unsatisfactory cover crop - consequently about 800 acres are under natural cover. The latest inspection report by the FLDA Planting Director is at Annex 1; it describes the position well and his instructions for changes and improvement are being effected.

5.2 Weeds and Pests. Mikania Cordata is a pernicious weed throughout Jengka and has had to be allowed to remain on some areas. Elephants have destroyed a considerable number of palms and porcupines, rats and wild boar also cause damage.

5.3 Village Development. Standards of roads, water supplies and buildings are good. The project has no maintenance unit for buildings, however, and management is unclear where responsibility lies. This should be taken up with Government and FLDA.

5.4 Rubber Planting Techniques. Two methods are used on Jengka - planting seed at stake and subsequently budding in the field, and planting out budded stumps ("green-budding") grown in polybags in the nursery. Of the 4,200 acres being planted on Scheme 7, 1,700 acres are green buddings and 2,500 acres seed at stake. The technical advantages of green-buddings are great, mainly because they come into bearing about 12 months earlier than seed at stake if planted at the same time. Also, since stumps are budded in the nursery, FLDA supervision is easier, and green buddings form a more even stand than seed at stake,wwhich contractors frequently bud with unselected clones.

5.5 Commercial estates now almost entirely use green buddings despite initially higher costs (about M$60/acre - see Annex 2) but FLDA is reluctant to abandon seed at stake. The Bank should request FLDA to prepare comparative DCF's for the two methods and if green buddings are shown to be more profitable, FLDA should be pressed strongly to use green budding on all future Jengka plantings.

Climate

6.1 The extensive clearing at Jengka seems to be affecting rainfall adversely and rainfall in 1970 will probably not reach 70 inches compared with well over 80 inches in the area in the past. This is not unexpected, and normal rainfall should recur when oil palms and rubber replace the natural forest cover. Meanwhile, however, lower rainfall will reduce production both of Jengka holdings now coming to maturity and of other plantings around Jengka. It might therefore be desirable to delay development of Stage 3 and also to spread Stage 2 over a longer period and the Bank should ask FLDA to study the situation; the University may be interested in assisting.

Yields and Harvesting

7.1 Jengka palms on Scheme I, Phase 1 will come into bearing in early 1971. Appraisal estimates for the first year in bearing were 0.5 tons ffb/acre and 3.6 tons ffb/acre for the second year. Comparable actual yields at the Ulu Jempol scheme adjacent to Scheme I were 0.38 tons and 2.71 tons, equivalent to shortfalls of about 25%. In subsequent years Ulu Jempol yields have been closer to appraisal estimates - the reduction in years 5 and 6 are 5% and 2.5% and are more than compensated by an increase of about 15% in outturn of palm products (para 8.2). Annex 3 shows ffb yields of all FLDA schemes in production and indicates that appraisal report estimates of oil and kernel production will be achieved, particularly when account is taken of higher outturns. Annex 4 shows similar information for rubber schemes.

7.2 Jengka yields will probably benefit from higher stands per acre, better harvesting and better collection than on other schemes. The Jengka stand is 57/58 palms/acre against 51 on Ulu Jempol. For harvesting Jengka will use a recently introduced block system in which 10 settlers collectively work 100 acres; this is proving more efficient than the previous individual system. Collection would be

improved by better contracts with collection contractors. At present FLDA pays the contractors very low rates (para 11.6) and consequently contractor personnel are of poor quality, mill deliveries are irregular and much ffb is wasted. FLDA should be asked to negotiate better contracts or, alternatively (and this would be less satisfactory), to operate its own collection vehicles.

Processing

8.1 Installed capacity at the Ulu Jempol Mill is 8 tons ffb/hour. The Bank has approved tenders for two phases of expansion to 35 tons and orders have been placed for three 9 ton presses required. Thus the planned expansion is on schedule.

8.2 Mill operation is satisfactory. In the quarter to September 30, 1970, the mill processed 7,287 tons ffb and achieved extraction rates of 19.02% oil and 3.80% kernels. Comparable out-turn forecasts for Jengka were 15.6% oil and 2.5% kernels. Oil quality was good with FFA contents of 2.31% in July, 2.59% in August, 3.60% in September, and 2.8% in November. September's higher FFA content was attributed to ffb collection problems.

Project Costs

9.1 Annex 5 compares current estimated project costs to completion of both Stages with appraisal estimates. The figures were prepared by FLDA staff after the mission left, have not been verified, and appear to contain important discrepancies; the next supervision mission should prepare a full comparison and analysis of unit and total costs.

9.2 FLDA's figures show that total project costs are running some 8% above appraisal estimate for Stage 1 and 5% for Stage 2, while FLDA expenditures are some 20% and 8% respectively above estimate. The principal reasons for the substantial apparent overrun on Stage 1 are the increase in area from 27,700 to 30,245 planted acres, an increase of M$ 106/acre in land clearing and payments to contractors, and very much higher "other FLDA Expenditure." The latter mainly consists of subsistence payments to settlers which at the time of appraisal of Stage 1 were assumed would not be required as settlers would be employed on work within and around Jengka. The mission considers that FLDA's current estimates are too high, particularly in view of the delay in settlers' arriving and that the eventual actual figure will not greatly exceed the appraisal estimate.

9.3 Stage 2 agricultural development costs are now estimated to be about 7% above appraisal forecasts due to longer contractor maintenance periods and higher rates; there appears, however, to be an error in FLDA's estimate of the maintenance period. The higher rates, which apply also to Stage 1, result partly from FLDA not following its normal practice of negotiating the low bidder's contract price; thus contract costs are about 10% higher than on other FLDA schemes. The mission told FLDA that the Bank would not object to FLDA following its normal contracting procedures on Jengka in future.

9.4 The revised estimates also show considerably higher expenditures on processing facilities (30% for Stage 1 and 50% for Stage 2). However, the increases represent about 3% only of total project costs.

Disbursement

10.1 Annexes 6 and 7 compare actual and current estimated disbursements with the appraisal estimates. Because about M$6 million more than estimated was incurred on Stage 1 prior to loan signature and because of delays in contract payments and village infrastructure development, disbursements to date are about 75% of estimates. However, disbursements are expedited to catch up with estimates by end-1972. Due to slower than expected expenditures on Stage 2, disbursements will lag behind appraisal estimates until end 1973. Because of the higher agricultural development and mill costs it appears at present that the loan amount for Stage 2 will fall short of the amount required to meet 100% o f agricultural and civil works costs as provided under Schedule 1 of the Loan Agreement. It is premature at this stage to propose any revision to the percentage allocation, particularly in view of the uncertainties over the amount of interest which will be financed, but future supervision missions should keep the situation under review.

10.2 Loan 672-MA for Stage 2 provides US$ 100,000 for salary and recruitment of a Finance Director. As the Finance Director's salary is being largely met by UNDP, only about US$ 25,000 is estimated to be required from the loan and it is proposed that the balance is used to finance the costs of financial management consultants (para 11.1).

Organization and Management

11.1 Finance. The Finance Director required to be appointed under Loan 672-MA took up his post in October; he is Mr. T. Sitkoff of PAS (Chicago). His appointment was made through UNDP, which is financing most of his salary. He has recently completed a preliminary survey of FLDA's financial organization and procedures and has recommended (i) a reorganization of the Finance Department, including appointment of 15 additional staff, and (ii) employment of management consultants to develop new systems. These measures are necessary and it is proposed that the Bank agree, if requested, to finance up to US$ 75,000 of the consultants' costs. FLDA should be asked to prepare terms of reference and send them to the Bank for comment.

11.2 The timetable agreed with the Bank under Loan 672-MA for bringing FLDA and settlers accounts up-to-date is being adhered to. FLDA's 1969 accounts have been received and settlers accounts for all schemes in production at December 31, 1968, will be completed by end-1970. The preparation of settlers accounts has revealed that the recovery of some loans, mainly on the early State schemes taken over by FLDA, is in doubt, due to the higher costs, and lower productivity resulting from smaller holdings, lower stands, and poorer clones and field standards. Assurances were obtained under Loan 533-MA that irrecoverable amounts would be written off and that Government would write off corresponding amounts from its loan to FLDA. Since it is important from both settlers and FLDA standpoints that the loan amounts should be correct and reasonable, Government and FLDA should be reminded of the undertaking and FLDA requested to prepare a statement of irrecoverables.

11.3 Jengka. Because it was recognized at appraisal of Stage 1 that FLDA suffered from overcentralization and lack of delegation, the Bank insisted on creation of the Jengka Division. The Division was to have considerable autonomy which it was hoped would be extended to other FLDA projects. However, autonomy can be achieved only if the Division is adequately staffed. Annex 8 compares actual

Division staffing with that envisaged at appraisal of Stages 1 and 2 and shows clearly that staffing is inadequate both at headquarters and on schemes, where not one scheme manager is in post. Engineering and settler development cadres are virtually non-existent and this has probably caused in part the delays in village development and settlement.

11.4 Understaffing on Jengka and elsewhere leads to inadequate supervision, overcentralization and excessive responsibility being placed on staff in relation to their experience and remuneration. FLDA's main problem in retaining staff is that it pays salaries which are not competitive with the commercial sector but at the same time requires its staff to assume far greater responsibilities. For example, the Assistant Manager in charge of Scheme I, aged 24 and a graduate of Serdang College, is responsible for 3,440 acres of oil palms and 147 settler families (340 families will eventually be in occupation). In commerce, he would probably be responsible for about 600 acres under close supervision and would have no settlers, but his salary would be 50% higher.

11.5 With FLDA being pressed to develop 50,000 acres annually, much land development by States, and rapid Malayanization of commercial estates, experienced staff will be scarce for several years; and FLDA urgently needs to improve its conditions of service so as to retain staff and so protect its investment - now about M$ 70 million a year. FLDA recognizes its staffing and overcentralization problems and has asked the Bank to help in carrying out a review of its organization, recruitment and training policies, and staff terms of service. The Chairman believes that Government would respons favorably to recommendations developed from a Bank supervised study. FLDA is preparing draft terms of reference for this study and will submit them to the Bank soon. The study appears suitable for UNDP financing.

11.6 Contractors. FLDA prides itself on obtaining very low rates for contract work. However, this sometimes results in poor contractor performance, especially when coupled with FLDA's stringent progress payment system, which can put contractors with limited financial backing in difficulties in completing work on schedule - this was so in Jengka Scheme V. Contractors' prices in Jengka and Pahang as a whole have been rising, mainly because of increased land development and logging in the State. FLDA should be asked to review the progress payment system and advise the Bank whether changes could both improve contractor performance and check the increase in rates.

Marketing Survey

12.1 Under the Stage 1 Loan, Government agreed to conduct a marketing study to determine FLDA's future marketing organization. The study has been completed recently by a firm of Belgian consultants financed by an Asian Development Bank grant. The draft report has been reviewed by FLDA and copies of the final report will be sent to the Bank, but it appears to be quite valueless and this critical matter remains outstanding. FLDA is sending to the Bank terms of reference for a new study (those for the ADB study amended where necessary) and the Bank should consider ways to assist FLDA in obtaining suitable consultants.

ARWhyte:et
(Bank)

cc: Messrs Chadenet, Baum, Engelmann, Piccagli, Rovani, King, Lee, Evans, Wapenhans, McIvor, Takahashi, Darnell, Veraart, Forcum, Jentgen (Area), Sassoon (Legal), Rigby (Controller's)
Central Files

MALAYSIA

AGRICULTURAL SECTOR REVIEW

LAND DEVELOPMENT

A. Resource Base

1. The Federation of Malaysia, comprising the 11 states of West Malaysia and Sabah and Sarawak in East Malaysia, is only thinly populated. In West Malaysia, the total population of 9.5 million (estimated for 1970) is heavily concentrated along the coastal lowlands, especially along the west coast, while much of the mountainous inland region is sparsely inhabited and largely undeveloped. This situation is even more pronounced in East Malaysia with the very small population located mostly in the coastal regions.

Table 1: AREA AND POPULATION OF MALAYSIA

		Total Area (sq. miles)	Population (thousands)	Density (persons/sq. mile)
West Malaysia		50,700	8,035.5	159
East Malaysia:	Sabah	29,400	518.1	18
	Sarawak	48,300	902.8	19
Total		128,400	9,456.4	74

2. Of the total land area in West Malaysia of 32.4 million acres, about 7.1 million were in agricultural use in 1970. Tree crops (principally rubber, oil palm and coconut) comprise about 5.5 million acres of this agricultural area. A further 7.2 million acres are being exploited as commercial forest, while a little under 1 million acres are held as forest reserve. About 330,000 acres are in urban or mining use, and the remaining 17 million acres are unused. In East Malaysia, only a very small proportion of the land is in agricultural use (about 3 percent), and this, too, is predominantly in rubber and other tree crops.

3. The Natural Resource Capability Section of the Economic Planning Unit has, over the past five years, prepared a Land Capability Classification of West Malaysia. This has utilized land use, soil, geological, forest and water resource surveys to arrive at estimates of potential land use. Land has been divided into five classes -- mining, good agricultural, moderate agricultural, productive forest and other. Present and potential land use in West Malaysia, estimated on the basis of this survey, is presented in Table 2.

Table 2: PRESENT AND POTENTIAL LAND USE, WEST MALAYSIA
(millions of acres)

	Present Area	Potential Area
Agriculture:		
annual crops	1.6	3.4
perennial crops	5.5	12.5
Sub-total	7.1	15.9
Forestry:		
productive forest	7.2	10.2
protective forest	1.0	4.0
Sub-total	8.2	14.2
Mining:	0.1	0.4
Other (including urban):	17.0	2.1
Total	32.6	32.6

Source: EPU, Kuala Lumpur.

4. Clearly, there is a very considerable area of potential agricultural land in West Malaysia that is not yet in production. Most of this is to be found inland, especially in Pahang and Johore, and is moderately sloping land that is best suited to tree crops. There is also, however, a significant quantity of land in valleys or on undulating terrain that would be suitable for annual crops. To the additional 1.8 million acres classified above as potential arable land could be added a further 1.5 million acres of deep (more than three feet) peats which would be suitable for annual crops if appropriate drainage and husbandry techniques could be developed (these have not been included as potential agricultural land in the above classification). West Malaysia therefore has sufficient resources to triple the area of land under arable crops and more than double the area of perennial crops.

5. In addition to outlining the size of West Malaysia's agricultural resource base, the Land Capability Survey also reveals existing misuse of land. It is estimated that at present about 1 million acres of agricultural land would, for reasons of soil, slope or drainage, be more productive under forest; on the other hand, about 2.7 million acres of land currently exploited as commercial forest would be suitable for agricultural use. Similarly, of total land alienated for agriculture there were, in 1970, an estimated 3.1 million acres not in agricultural use, while it is thought that several hundred thousand acres of agricultural land are in areas not alienated for this purpose.

6. Much less information exists on the natural resource base of Sabah and Sarawak. However, because of the small population relative to land area and the problems of labor shortages in existing productive activities, precise information on land use potential is less important than in West Malaysia. Nevertheless, the concentration of population in certain regions does lead to misuse of resources, especially in Sarawak where the problem is exacerbated by the system of customary rights which restricts land use to a certain proportion of the population. Also of importance in Sarawak is the large area of peat soils (estimated at 5 million acres), unused at present, which would greatly ease the regional land shortage if husbandry techniques could be developed.

B. Past Development

7. The initiative for land development in Malaysia has traditionally come from the private estate sector, much of which is foreign-owned. Before the rubber boom began at the turn of the century, agricultural production in Malaysia was limited very largely to rice and other food crops grown at or near a subsistence level. Coffee provided the only major export crop. Following the introduction of rubber from South America and the rapid growth in demand for this industrial raw material, foreign companies, mostly British, financed a very rapid growth in the area of estate rubber, which was accompanied by a similar but slower expansion of smallholder acreage. The rate of planting slowed considerably in the 1930's, and the war followed by the emergency prevented the estate sector ever regaining its early momentum, although expansion of smallholder acreage continued. In the 1950's and 1960's, estates emphasized replanting of existing areas with new, high-yielding clones rather than developing new land, and the fragmentation of estates into units of less than 100 acres (which then became classified as smallholdings) resulted in a fall in the total estate acreage. In the mid-1960's, a considerable area of oil palm was planted by estates, but this largely replaced old rubber and did not cause a significant increase in overall estate acreage.

Table 3: AVERAGE ANNUAL RATES OF NEWPLANTING OF RUBBER AND OIL PALM IN WEST MALAYSIA ('000 acres)

	Rubber				
	Estates	Smallholding	Total	Oil Palm	Total
1905-1930	75	48	124	2	126
1931-1938	23	13	36	3	39
1939-1946	-18	33	15	0	15
1947-1956	8	14	22	4	26
1957-1964	-19	88	69	17	86
1965-1970	-55	55	0	78	78

Source: Gates, W. B., et al, EPU, Kuala Lumpur, 1967.

8. The slowing-down of private investment in land development is a function of several factors. Despite the political stability of the late 1950's and the 1960's, foreign companies have not, in general, been enthusiastic about increasing their financial commitment in Malaysian plantations; the withdrawal of Singapore from the Federation in 1965 also reduced the flow of local capital. The secular decline in rubber prices since the Korean War and the increasing share of synthetics in the rubber market have depressed investment in rubber estates. Acquisition of land in Malaysia has become more difficult as the states have tightened their control of alienation practices. In recent years, the greater profitability of oil palm has inhibited investment in rubber but has not encouraged new large-scale land development by private estates. The disturbances of May 1969 have further depressed the investment climate, both for foreign companies and for Chinese Malaysians.

9. To some extent, the lack of private-sector expansion has been compensated by increasing public sector participation over the past decade. Both state and federal agencies have been initiating land development and settlement schemes, at first in rubber and recently very largely in oil palm. The most effective of these has been the Federal Land Development Authority (FLDA) which has opened more than 300,000 acres since 1957. It is estimated that between 1961 and 1968, public sector agencies opened up more than 520,000 acres in West Malaysia, at an average rate of about 65,000 acres annually.

Table 4: PUBLIC SECTOR LAND DEVELOPMENT IN WEST MALAYSIA, 1961-1968
('000 acres)

	Rubber	Oil Palm	Total
FLDA	113.3	90.7	204.0
RI(R)B	68.1	-	68.1
States -- fringe	119.0	-	119.0
-- block (subsidized)	8.2	44.8	53.0
-- block (unsubsidized)	65.0	-	65.0
Total	373.6	135.5	509.1

Source: RRI and Department of Statistics, Kuala Lumpur.

10. In the past two years, FLDA has raised its rate of land development considerably (38,000 acres in 1969 and 52,000 acres in 1970), and the emphasis has been very strongly on oil palm (nearly 80 percent of the planted area in these two years). On state schemes too, very little planting of rubber has taken place in the last couple of years, whereas large blocks of oil palm have been planted on youth settlement schemes, joint ventures and commercially-orientated state farms. Although FLDA is now increasing the proportion of rubber on its schemes, the states appear to be maintaining the emphasis on oil palm.

C. Land Rights and Alienation

11. The formal system of land rights is based on the assumption that the State (federal and state) owns all land rights. The State gives these rights to individuals in several forms ranging from a temporary occupation license to a title with full rights in perpetuity.

12. Most of the land administration has been directed to the handling of long-term leaseholds using the Torrens system. This system was designed by Sir Robert Torrens, an Irish immigrant to Australia, and it was established first in Southern Australia in 1858. Each tract of land is surveyed and clearly marked, and a title is made out and formally registered. Any person who has a claim to this land has his name put on the title in the registry. No other claim is honored, and the State guarantees the title to be correct as recorded. If there are any claims, the State will protect against them. This differs from the deed, which is a recorded contract between two persons granting one the other's right to a piece of land. The rights thus acquired may or may not be valid since a person may have granted some of his rights to another person before he enters the deed contract. If the exact extent of the land rights in the deed have to be proved in court, it is the individual's responsibility. The State, when it uses the Torrens system, obviously is more careful about procedures for recording titles.

13. In some cases the State does not consider occupancy illegal if the occupant is in the process of applying for title. A temporary occupation license or an approved application may be acceptable. In Johore "provisional titles" are being recorded. These have been surveyed by private surveyors and are considered usable titles even though the land has not been officially surveyed nor the official title registered.

14. The assumption that the State owns all the land and grants certain rights to it has led to placing in the title restraints on what the land may be used for or for how long a period the title is valid. According to the federal constitution and land code, titles can be granted for agricultural, industrial or urban uses. In addition, rights to agricultural land may be and often are granted for specific uses. For instance, rights to padi land often stipulate that the land can only be used for padi. As an incentive to develop padi land the title often does not require a premium and may have a rent as low as M$ 1.00 per acre per year. Titles to land used for rubber and, recently, oil palm, generally restrict the owner to one specific crop. Time limitations may also be placed on a grant of rights. The issue of limitations on titles has not yet arisen in the case of titles granted to individuals in connection with government land development schemes.

15. To get an agricultural land title in his name, an individual must pay a premium, which in most states is M$ 25 per acre, and a rent each year which varies according to quality of soil and by state. The range is usually M$ 6-M$ 12, and often the rent is reduced while the crop is maturing. FLDA typically pays rent of M$ 1.50 per acre until the rubber or oil

palm starts to produce. Land rents can only be changed once every 15 years, but an additional change has recently been authorized and has resulted in rent increases in some states.

16. Malaysia has no land tax. Local governments receive their income in the form of land premiums, annual quit rents, licenses and other use permits. They also levy some excise taxes.

17. If a landowner with limitations on his deed wishes to change the use or extend the time, he must reapply for a new title. When he does, he may be required to pay the premium again and pay an increase in the amount of annual rent.

18. This formal system of land rights has been working against -- and has often been modified to accommodate -- Malay customary law, which is similar to that of Burma, Thailand, and Sumatra. This customary law, suitable in a subsistence economy where the physical job of reclaiming land was difficult and where land was plentiful, was based simply on the idea that he who cleared the jungle or prepared padi land and used it had all the ownership rights. In some cases these customary rights have been formalized (the Constitution has done this in the case of Negri Sembilan, Malacca, and Trengganu). Customary rights are considered rights in perpetuity, and the holders pay no land premiums or rents.

19. The state, and the district officer within the state, are responsible for issuing all use licenses, permits and land titles and for their registration, and land is therefore considered to be primarily a state matter. Individual states often differ as to the methods used in performing these land responsibilities. The pattern is for each state to have a governing officer (a political appointee or the Sultan), an executive officer (a State Secretary) who is a civil servant, and departments corresponding substantively to the federal ministries. In most cases, the Commissioner of Lands records all titles and collects premiums and rents.

20. Each state is divided into districts, with a district land officer for one or more districts. Sabah has four residencies with a district officer in each. Sarawak has five divisions. The district officer is responsible for the accuracy, recording and implementation of such land matters as land transfers, land acquisitions, unappropriated state land, mortgages, foreclosures, wills, collection, inheritance and transfers of use. The district officer is also authorized to grant title to any unappropriated rural land in less than 10-acre lots; and he determines the amount of premium and the amount of rent on these lots and keeps the records on them.

21. Urban and industrial lots and rural land grants of larger than 10 acres are sent with the district officer's recommendation to the State Commissioner of Lands. The Commissioner of Lands may grant title, fix premiums and rents for rural lots between 10 and 50 acres, and record them. Tracts over 50 acres must be approved by the State Council.

22. If the federal government is satisfied that land not alienated (unreserved state land) is needed for a federal purpose, it may, after consultation with a state, require that the land be transferred to the federal government or any authority the federal government directs (Constitution, Part VI, Art. 83). Although this provision is seldom used, the court has upheld its constitutionality. In 1970, the National Operations Council established the Muda Authority with powers over land matters; however, until Parliament can affirm its existence, the Authority has remained cautious in exercising this power. The federal government is also responsible for making the official survey for all land titles. A title cannot be finally registered until this survey is complete; hence, until registered, no one has incontestable state-supported legal rights to the land.

23. A National Land Council also exists "to formulate from time to time in consultation with the federal government, the state government and the National Finance Council, a national policy for the promotion and control of the utilization of land throughout the Federation for mining, agriculture, forestry and any other purpose, and for the administration of any laws relating thereto; and federal and state governments shall follow the policy so formulated" (Constitution, Part VI, Art. 91). There are 22 members on the National Land Council, one from each state and 11 from the federal government. Sarawak and Sabah are observers, but neither is a voting member, nor are they bound by actions of the Council. The National Land Council is responsible for the formulation of general guidelines to land use, and it is in the process of adopting the recently completed "Land Use Capability Map" as its basic guideline.

24. Land can be alienated for a number of productive uses -- agriculture, mining, etc. -- or be gazetted for forest, grazing or game reserves. In addition, land can be retained for certain ethnic groups, such as Malays in West Malaysia and indigenous peoples in East Malaysia. The area under different categories is known with some accuracy in West Malaysia, and this information, along with estimates for East Malaysia, is given in Table 5.

Table 5: LAND CATEGORIES IN MALAYSIA
(millions of acres)

	Land Area	Percent
West Malaysia		
State land	8.0	24.8
Alienated for agriculture	9.6	29.7
Alienated for mining	0.4	1.2
Malay reserve	4.3	13.3
Grazing reserve	0.1	0.2
Aborigine reserve	0.1	0.2
Forest reserve	8.2	25.2
Game reserve	1.5	4.6
Other purposes	0.3	0.8
Total	32.5	100.0
Sabah		
Titled alienation	1.0	5.3
Non-titled alienation	0.5	2.7
Forest reserve	8.1	43.1
State forest	6.6	35.1
Unalienated deforested land	1.0	5.3
Unalienated shifting cultivation	1.6	8.5
Total	18.8	100.0
Sarawak		
Mixed zone		
Titled -- native	0.1	0.3
non-native	0.6	2.0
Customary tenure	1.6	5.2
Unused	0.5	1.7
Sub-total	2.8	9.2
Native land		
Titles	0.2	0.6
Customary tenure	1.1	3.6
Sub-total	1.3	4.2
Native customary land	7.0	23.0
Reserved land	1.6	5.2
Interior state land	17.8	58.4
Total	30.5	100.0

Source: EPU, Governments of Sabah and Sarawak.

25. Mining certificates, titles, or leases usually are for seven to 30 years. Prospecting permits are usually granted for one or two years on 200 to 1,000 acres. These prospecting permits give preferential treatment for later mining titles, but the results of prospecting must be filed with the government. One year after mining stops the land reverts to the state. Land alienated for purposes other than agriculture and mining include town land, urban and industrial land areas. These titles are usually given to the private sector for 30 to 99 years.

26. Aborigine Reserves are small areas in the interior reserved for indigenous groups. These federal areas are reserved after they have been surveyed and some attempts are being made to increase these reserves. Grazing reserves are very small tracts of land in Malay areas set aside for buffalo grazing. They are usually areas of very low productivity and are the responsibility of the Veterinary Department. Malay Reserves are unalienated land where ownership and use are restricted to Malays. These areas must be titled to Malays and can only be transferred to other Malays. A state may increase its Malay reserve by two-thirds vote of its legislative body. It must, however, have available an equal amount of non-Malay land. A state may also decrease its Malay reserve. Some of the alienated land is also restricted to Malays.

D. Land Tenure

27. Tenancy in Malaysia is very largely restricted to padi land. Farmers of other crops either have acquired title to their land through the alienation procedures described above or use their land under customary tenure rights. Padi lands are located mostly in the coastal regions, with a concentration in the states of Kedah, Perak, Penang, Perlis, Selangor and Kelantan. Most padi farms are small (less than five acres) and family incomes are generally low. The proportion of land farmed by tenants ranges from less than one-third of the total padi area in Selangor to about two-thirds in parts of Malacca.

28. The Malaysian government has taken many measures in recent years to improve the socio-economic position of padi farmers. As well as investment in irrigation and other infrastructure, research on rice varieties and a support price program, these measures have included legislation to regulate tenancy agreements in padi areas. The first attempt was made with the passing of the Padi Cultivators (Control of Rent and Security of Tenure) Ordinance in 1955. However, only one state gazetted the ordinance and only one area made any attempt at enforcement. After several studies suggested changes in the legislation, the 1955 Ordinance was repealed and a new Padi Cultivators (Control of Rent and Security of Tenure) Act was passed by Parliament in 1967.

29. The 1967 legislation stated it to be government policy and the objective of the padi rent law to encourage written leases of at least three years and to limit the amount of rent paid by tenants. This act limits the rent charged by a landlord to 140 gantangs per acre for Class I

land, 115 gantangs per acre for Class II land, and 70 gantangs per acre for Class III land. Land that is classified for double-cropping may be charged one-third more rent. A written lease is required for a minimum of three years, with the tenant having the option to renew before the end of the lease. A special registrar is designated in each district to record written leases either by landlord or tenant. Federal and state enforcement authorities, procedures for resolving conflicts should they arise, and penalties for non-compliance are prescribed in the Act. The states must gazette the law and set up the state enforcement machinery, appoint registrars and appeal procedures, before the Federal Statute is in effect. To date, the states of Kedah, Perlis, Pahang, Perak, Penang, Selangor, and Kelantan have adopted the ordinance, and the states of Malacca and Trengganu have it under consideration.

30. Regardless of how desirable the policy is, however, there are a number of features that make these goals difficult to accomplish by federal law alone:

(a) The federal law prescribes the maximum rents to be charged for Class I, II, and III land. When the state gazettes the Act, it must also classify its land and, on the basis of existing knowledge, this classification will inevitably be very general. Ideally, land classification should be on the basis of a soils map or other map of productive capability, taking account of local knowledge. Clearly, however, such information does not always exist and the resultant classification will be somewhat arbitrary.

(b) More information should be collected about the landlords. In many cases, the owner on a title registry is not considered the owner locally. Many of the tenants are related to or friends of the landlord, and the lease is a form of family or community assistance. Some of the landlords, if faced with rent restraints, would operate their land rather than rent it, thus depriving the tenant of his status.

(c) One of the objectives is to shift tenancies from a sharecropping basis to one of fixed rental, so ensuring that the tenant receives maximum benefit from double-cropping and retains an incentive to raise production. In areas where the water supply is not assured, however, sharecropping better distributes the risk of crop failure or low yields. As assured water supply and improved varieties lead to greater productivity in double-cropped padi areas, it will increasingly be the farmer on single-cropped land who will need assistance.

31. In general, however, the present law will, if effectively enforced, result in a considerable improvement in the tenancy situation in padi areas. Present administration of the padi rent law is concentrating on an educational and information program to let the landlords and tenants know the policy of the government incorporated into the law, and voluntary

recording of leases is encouraged. Perhaps as important is the recognition of the limited information available about ownership, and the consequent effort to identify and list those who are considered to be the landlords in the communities.

E. Future Land Development

Role of Public Sector

32. As discussed above, the initiative for land development has passed, over the last decade, from the private estate sector to the public sector. This shift was accelerated by the Land Group Settlement Areas Act, passed by Parliament in 1960, which makes it possible for the federal government to undertake directly large development schemes. Under this law, a federal authority may be formed to plan and manage directly a development scheme. Such an authority may negotiate with the state government on the location of the site, its layout, the premium and rent to be charged for the land, the cost of land surveys, and other fees or costs.

33. The authority can proceed with development, maintaining all ownership records and titles until the settler has paid his loan in full. When the loan is repaid, the developed land is returned to the state and a title to a specific tract is reissued to the settler. In the case of FLDA, the premium is usually M$ 25 per acre and rent during development is M$ 1.50 per acre until harvest, when it advances to M$ 6.00 per acre. The Authority can thus acquire title and pay initial land transfer costs, including survey costs, and build them into the settler's loan. The settler does not have to start repaying the loan (including land alienation costs) until the crop comes into production, while the state receives income at the time of alienation. The 1960 Act has also made it possible to prevent subdivision. Transfers can be made only to an individual person (no joint ownership). Thus, on these schemes, Moslem inheritance law requiring equal shares to all heirs is eliminated. Even religious dues, usually 10 percent of the gross product, are changed to M$ 1.00 per person per year.

34. In the Second Malaysia Plan, currently under preparation, the Malaysian government is placing considerable emphasis on increasing the rate of land development, both to raise agricultural output and to create employment opportunities. In the draft proposals, currently under discussion, it is planned to develop 750,000 acres 1/ over the five-year period, of which 600,000 acres would involve public sector participation. The largest burden would rest with FLDA, which would be expected to develop 50,000 acres annually, while the RI(R)B, in addition to its rubber replanting program, would be asked to open 30,000 acres of new land annually.

1/ Since this was written, the target has been raised to one million acres over the five years.

Table 6: PROPOSED FIVE-YEAR LAND DEVELOPMENT TARGETS (1971-75)

	Acres (thousands)	Federal Cost (M$ per acre)	Total Cost (M$ millions)
Federal Schemes:			
FLDA	250.0	2,000	500.0
FELCRA (Fringe Alienation)	40.0	600	24.0
RI(R)B (Cooperative Block New Planting)	150.0	750	112.5
Sub-total	440.0	-	636.5
State Schemes:			
Youth schemes /1	75.0	600	45.0
Low-cost settlement /1	37.5	1,200	45.0
Public sector estates /1	37.5	1,200	45.0
Sub-total	150.0	-	135.0
Private Sector Participation:			
Joint venture estates	50.0	-	-
Private estates	112.5	-	-
Sub-total	162.5	-	-
Total	752.5	-	771.5

/1 Federally subsidized schemes.

Source: EPU, Kuala Lumpur.

35. The proposed rate of land development is approximately twice that of the past five years, requiring the public sector to open new land at about 120,000 acres per year, compared to the recent rate of about 65,000 acres per year. Stated in such terms, the proposed program appears over-ambitious. It should be remembered, however, that between 1905 and 1930 new land was developed in West Malaysia at an average rate of more than 125,000 acres annually. When it is considered that at that time the population was only one-third of its present size and the transportation network and other infrastructure was much more poorly developed, the target of 150,000 acres per year does not seem unrealistic.

36. There are, however, three major constraints that must be removed before this target can be achieved -- the shortage of managerial and technical personnel, the lack of land clearing capacity and the inadequate institutional structure. The shortage of skilled manpower is apparent in the unwillingness of the FLDA to expand its rate of development beyond 50,000 acres per year. Similarly, it is thought that inadequate management is leading to excessive bark consumption on some FLDA rubber schemes -- a

fault that will lead to lowered production and reduced settler incomes. With rubber replanting on private estates largely completed, however, the managerial and technical capacity of the private sector is clearly not being fully utilized. Although the estates do not seem willing to undertake newplanting of rubber on their own account, they should be prepared to make trained personnel available to the public agencies on a contract basis. The rate of land development by FLDA could be increased and the supervision of existing schemes would be improved if this surplus capacity in the private sector were to be utilized.

37. The second constraint is the lag in construction of infrastructure on settlement schemes and the likely lack of capacity to clear and plant land at a faster rate in the future. With respect to infrastructure, problems have arisen through the inability of other government departments to meet their commitments on schedule. This weakness is now recognized, and steps have been taken to remove this bottleneck on future schemes. Complaints are commonly made concerning the shortage of contractors to carry out the clearing and planting of settlement schemes. Although this appears unfounded at the present time, when settlement is lagging behind land development on most schemes, the manner in which FLDA employs contractors suggests that such a shortage may develop in future if the rate of land development is expanded. Although a number of relatively efficient contractors are operating, the tight conditions and slow payment of FLDA combine with a very uneven supply of work to create narrow profit margins. If these margins were widened and contractors were encouraged to mechanize their activities to a certain extent, then the rate of clearing and planting could be increased without difficulty.

38. The third constraint -- inadequate institutional structure -- applies not only to FLDA but also to the other agencies in the proposed land development plan. The states are expected to develop 30,000 acres annually over the next five years through youth schemes, low-cost settlement projects and estates, but few states possess institutions capable of developing land on a continuing basis. Similarly, although both FELCRA and the RI(R)B are operational, neither has yet developed the capacity to open new land at the required annual rates of 8,000 and 30,000 acres respectively. There is, nevertheless, clearly a need to establish a land development system that is less centralized and less costly than the FLDA. Early efforts along these lines, through fringe schemes, were generally unsuccessful -- development was slow and trees were poorly managed and maintained. It is probable, however, that most of these faults could be avoided in future schemes without going to the organizational extreme of FLDA-type settlements. If the land development targets proposed for 1971-75 are to be achieved, government action will clearly be necessary to encourage less-centralized land settlement through the establishment of a suitable organization and the provision of funds and personnel. It is probable that, with careful planning and closely controlled credit and extension programs, new land could be successfully developed by providing the necessary infrastructure and allowing settlers to establish and maintain their own crops. Without development along these lines, it is most unlikely that new land can be opened at the desired rate with the result that production and employment creation will fall short of targets.

Federal Land Development Authority (FLDA)

39. FLDA was established within the Ministry of National and Rural Development in 1956. In the 15 schemes operated before 1960, the Authority exercised management control primarily through its function as an approving loan agent, although it did experiment with one direct management scheme. As a result of the 1960 legislation giving FLDA more control over land ownership, and because the FLDA administration with tighter planning and management of the schemes seemed more efficient, all the schemes since 1960 have been directly managed by the Authority.

Table 7: OPERATIONS OF FLDA, 1957-1970

Year	Area Developed (acres)			Families Settled
	Rubber	Oil Palm	Total	
1957-59	4,091	-	4,091	791
1960	10,509	-	10,509	1,981
1961	14,471	926	15,397	715
1962	24,673	1,749	26,422	881
1963	17,343	6,839	24,182	2,043
1964	22,398	8,317	30,715	1,150
1965	8,475	9,578	18,053	1,294
1966	14,442	14,032	24,474	1,465
1967	9,144	18,235	27,379	1,670
1968	2,344	31,044	33,388	3,791
1969	1,928	36,321	38,249	2,619
1970	18,007	33,554	51,561	3,800
Total	147,825	160,595	308,470	22,200

Source: FLDA, Kuala Lumpur, 1970.

40. FLDA schemes are large, generally covering several thousand acres. Rights to the land are negotiated with the relevant state government, and at times premium and rent charges are waived until the land comes into production. Cleaning, planting and early maintenance are performed under contract, and settlers are brought in once the basic infrastructure has been completed, generally in the fourth year. Settlers are chosen on the basis of several criteria, including age, experience, physical health, marital status and amount of land previously owned. They are employed on their own holding or in other jobs and are guaranteed a minimum subsistence allowance. This and other development costs are charged to the settler's loan account. Repayment begins once the crop (oil palm or rubber) comes into production, and is deducted from the value of produce, which must be sold through the Authority. The total loan which the settler must repay, including interest at 6-1/4 percent, is generally in the range of M$ 12,000-20,000.

41. The physical achievements of FLDA are considerable. To date, 22,000 families have been settled and more than 300,000 acres of land have

been opened. The level of management has been relatively high, although standards have probably dropped slightly as a result of the increased rate of development in the past few years. Rather more problems have been encountered, however, with respect to the social aspects of the schemes. Settlers have little or no involvement in project administration, and, at least in the early stages of settlement, have few alternative employment opportunities. They have no clear understanding of their financial positions and settlers on rubber schemes have, in recent months, had difficulty in meeting loan repayments. This has led to an increase in sales of latex or rubber outside the scheme so as to avoid deductions. Recent prices have put oil palm growers in a much stronger financial position than rubber smallholders, but no clear solution has yet emerged on how to manage the central palm oil factories once the land is distributed to the settlers.

42. Aware of these problems, FLDA established in late 1968 a Settler Development Division to handle the grievances of settlers. While this Division is not expected to resolve all the social structure issues, it has stationed a settlement officer in each of the schemes and Scheme Development Committees have been formed to involve the settlers in some of the management and administration decisions. Even though the status of Settler Development Division's personnel is not yet as high as that of some of the older technical personnel, the efforts by FLDA to involve the settlers in the management of the schemes should be encouraged.

43. With world rubber prices expected to remain low in the future, the financial difficulties of rubber settlers on FLDA schemes will continue unless changes are made in the structure or timing of settlement patterns. There are three such changes that would go a great way towards alleviating such difficulties in the future. The first would be to increase the size of holding on rubber schemes. With new tapping and collecting techniques, one family can manage a larger area of rubber than the 10 acres now allotted by FLDA. For smallholders to earn reasonable incomes, a minimum of 14-15 acres per holding should be provided on future settlement schemes. The second change would be through more intensive care of rubber after planting in order to advance the age at which trees come into bearing from the present seven years to the six or five years that is being achieved on private estates. A reduction of this order in the unproductive life of the tree would lower considerably the debt incurred by each settler and raise correspondingly the net income. The third improvement that FLDA could make is in the general cost efficiency of its operations. Despite its considerable success in opening up land, FLDA schemes have been very costly in terms of area developed. While some high costs are inevitable, there is considerable room for improvement in this respect. FLDA is currently employing a consultant to study the cost efficiency of its operations, and it is to be hoped that his recommendations will be followed.

44. FLDA settlement programs are also facing difficulties in two other respects. Firstly, settlement is lagging behind land clearing and planting, largely because the development of infrastructure, which is in the hands of other government departments, is behind schedule. This applies

particularly to the provision of access roads, water supplies, schools and clinics and, to a lesser extent, to land drainage facilities. A special road construction unit has now been established for FLDA schemes in Pahang, and it is to be hoped that this will prevent future bottlenecks. The second problem is the decreasing availability of land for FLDA-type schemes, which is leading to encroachment into Forest Reserves with consequent conflicts of interest regarding timber extraction. It is essential that a more workable arrangement is established between FLDA and the several state governments, especially Pahang and Johore, if public land development is to increase.

Other Land Development Agencies

44. The Federal Land Consolidation and Rehabilitation Authority (FELCRA) was authorized by law in 1966 and began functioning in 1967 within the Ministry of Lands and Mines. In the October 1970 reorganization, it was transferred to the Ministry of National and Rural Development. Its function is to: (a) take over and operate some of the state land schemes which are not doing well; (b) consolidate small holdings primarily in the padi area; and (c) develop new land schemes. The Authority is attempting to take over at least one project in each state. As of October 1970, it had six projects in Johore, four in Negri Sembilan, three in Pahang, one in Trengganu, two in Perak, two in Kedah, and one in Perlis. The states suggest schemes and FELCRA makes an evaluation of their redevelopment potential. Settlers on redevelopment projects pay all but administrative costs. However, many projects have been turned down as too expensive to redevelop. Similarly, no consolidation has been done to date, because of political difficulties and high costs. It is hoped, however, to develop a program patterned substantially along FLDA lines but in smaller blocks, of around 2,000 acres each.

45. The Rubber Industry (Replanting) Board (RI(R)B) has largely been engaged in the past with financing the replanting of smallholder rubber. The Board has succeeded in replanting about 1 million acres over the past two decades, and is hoping to replant the remaining 600,000 acres of seedling rubber over the Second Malaysia Plan period. It is realized, however, that the remaining old rubber is mostly on very small holdings, on which the farmer is unable to forego the loss of income that replanting would involve. To overcome this, the Board has proposed block planting of new rubber, of which smallholders would be given a share to provide extra income. Although the RI(R)B is now somewhat less enthusiastic about this plan than earlier, it has been included in the land development proposals of the Second Malaysia Plan.

46. Although block plantings of this nature may not be the best means of accelerating smallholder replanting, some similar development is necessary to improve the position of the very small rubber growers. New production techniques will allow rubber to remain profitable despite future low prices, but the minimum economic size of holding will increase in the process. It is essential, therefore, that a program is established to raise

the size of smallholdings through consolidating existing holdings and settling displaced farmers on new land. Whether such a program is implemented by the RI(R)B, FELCRA or a new agency is immaterial, providing the constraints of capital and personnel can be overcome.

47. The number of state land development schemes increased over the past decade. These take various forms -- fringe settlement schemes, block plantings, youth schemes, etc. They are partly financed by loans and grants from the federal government and generally involve fairly small areas, often less than 1,000 acres, although some oil palm schemes are rather larger. State schemes are expected to continue at an average rate of 30,000 acres annually over the next five years, of which the majority will be located in Pahang, Johore and Trangganu. In the past few years, youth schemes in particular have been popular, and six are now underway in West Malaysia. On these, unmarried village youths are employed to clear and plant land and then receive a share in the scheme after five years. These have been successful to date, under rigid, centralized control, but it is not known how they will be administered after five years. There is also one example of a state-owned oil palm scheme on which young people are employed as laborers. They are to remain as laborers and not become shareholders, and the farm will be administered as a profit-making operation. More schemes of this type are anticipated over the next five years, either entirely with public capital or in the form of joint ventures with the private sector.

48. The state of Sabah has a land development board and program much like FLDA, but with some important differences. On its schemes, the settler receives his land free after it has been developed. If a settler does not live on the land nor harvest the crop, hired labor is employed to do it, but even these owners may still receive a share of any profits that remain after cost. Plans are now being made to reduce this opportunity for absentee profit and to give the new owner greater incentive to do his own work. Sabah has 18 such schemes in operation, but not much of the land has been cleared. The second five-year plan calls for only two more schemes -- one of cocoa and one of oil palm. Five 18-ton mills are planned and two bulking stations -- one is nearly completed. The state is having difficulty finding settlers, however, and settlement schemes are likely to be considerably curtailed in the future.

49. Sarawak has seven development schemes totaling 12,000 acres, all in rubber, and its five-year program projects four oil palm and two rubber schemes totaling 24,000 acres and one oil palm factory. On these schemes, settlers are given the land, a house and water, and at the end of seven years a M$ 25 premium and M$ 3 per year rent are required. Sarawak also has a youth scheme which employs young single men 18-25 years old with agricultural training who, after two years, earn shares in the project. When the rubber is in production, the person owning shares can work for M$ 4 per day and leave the dividends in to pay off the corporation loan. It is estimated that the individual will in about seven years have built up an equity equivalent in value to 10 acres of developed land. However,

just what kind of corporation, cooperative or individual tract ownership will be desired when the individual has substantial shares is not yet known.

F. Conclusions and Recommendations

50. Present government policy is directed at increasing the rate of land development in order to expand agricultural production, increase export earnings and create employment opportunities. Because of reduced private investment, the bulk of future land development will have to come through the public sector. While the proposed rate of development of 150,000 acres annually is not inconsistent with the physical resource base, it will require considerable expansion of the managerial and technical skills now available to the public sector. This should be possible, however, through use of private sector personnel on a contract basis. It will also be necessary, if the target acreage is to be achieved, to establish new, less-centralized systems of land development and to streamline the operational structure of FLDA.

51. Although future expansion will come largely through government programs, private development should be encouraged wherever possible. To this end, acquisition of title must be made easier and future costs must be relatively secure. Time limitations in titles should be removed and restrictions on land use should be made more flexible. For holdings between 10 and 100 acres, permanent transferable titles should be granted for agricultural use with no crop or time restraints, and one official land registry should be maintained in each state. The district officer should continue to make the decisions on land allocations under 10 acres since he is closer to the people in the village, but he should have rather strong guidelines, and they should be developed jointly by federal and state governments in conjunction with local community committees.

52. Customary land titles are a problem in many states and particularly in Sabah and Sarawak. The practice of reserving large areas of land for Malays -- thus preventing ownership by persons of other nationalities -- appears to be a major limitation to all rural development. Careful reappraisal should be made of this racial restraint on land ownership in order to see whether it is really necessary and, if not, how it can be changed. It is also desirable that owners of customary land titles should not be exempt from premium and rent payments, in order that they should contribute to the financing of local government services.

53. The federal government's concern with the low income of the small tenant padi producers seems to be valid. However, it is doubtful whether tenancy is the principal or even a major constraint any longer to improvement of this situation, and it seems unlikely that the padi rent control law could be administered much more effectively than it is now. At present, federal law prescribes uniform maximum rents for three classes of land for the entire country, irrespective of variations in lease contracts and other local differences. To implement a program of improvement in the rice areas,

local people should participate in the formulation and administration of policy; to do this, local rice administrative boards should be established with membership representing the federal and state governments and the local communities. These boards should, with some guidelines, establish land classes and the maximum rent for each class and type of lease. In addition, the separate lease registry required by the federal law seems unnecessary, and it could better be handled by the land registry. As padi production reaches and exceeds domestic consumption, there will be a need to shift some land from padi into other forms of land use. In many cases, however, land titles and tenancy agreements prescribe that the land should be used only for padi. It is important that these constraints be removed so that land use may become more flexible in response to the future changes expected in the cost structure of padi.

54. Public land development schemes in Malaysia have been effective in clearing land and establishing crops, but the development of viable settler communities on the schemes has been much less successful. It is hoped, however, that the establishment of a Settler Development Division will be effective in developing settler participation in community affairs. Since it is the largest new land developer, it is important that FLDA should remain open to new ideas and maintain flexibility in its programs. It might, for example, experiment with bringing settlers in earlier and allowing them to build houses and some infrastructure (schools, water systems, community bu..dings, etc.). In addition, FLDA should acquire an option on land adjacent to the scheme to allow for future community growth.

55. It is important that the financial position of settlers should be improved, especially on rubber schemes. The most effective way to achieve this would be by enlarging the size of holdings on future schemes to about 14-15 acres per family, to take measures to bring trees into production earlier and to reduce the operating costs of FLDA schemes overall. Other changes would also alleviate some of the present problems. The present loan repayment system should be reviewed. The interest charged settlers by FLDA does not reflect the interest-free period allowed by government or government interest charges to FLDA. A flexible system should be developed, reflecting rubber prices, estimated production, and a return to government commensurate with the goal of providing the settler with adequate income.

56. Because of its major importance to the whole Malaysian agricultural development program, the structure and operation of FLDA should be subject to critical review and its objectives should be carefully defined. In two particular respects, FLDA's activities should give the Malaysian Government cause for concern at the present time. The first of these is the very high cost of FLDA's operations. These are transferred directly to the settlers and have to be repaid over a number of years. The failure of the government to submit FLDA to strict financial control has undoubtedly led to the growth of slow, inefficient operations within the Authority. In view of the expected decline in world prices for both rubber and palm oil, it is essential that the cost efficiency of FLDA's operations be improved. A consultant is currently engaged in a review of this aspect of

the Authority, but little will be achieved unless his recommendations are backed by much more rigorous control of the financial efficiency of FLDA than in the past.

57. The second aspect in which FLDA has been unsatisfactory is in the scale of its activities. Although FLDA has been quantitatively more successful than other attempts at land settlement, its record of settling 22,000 families and opening 300,000 acres of land in its 14 years of operations is inadequate with respect to the resources and needs of the nation. As noted above (paras 7-10), in the first three decades of the century, land was opened up much more rapidly than in recent years, and there appears to be no particular reason why these past rates of development should not be resumed. In response to government pressures, FLDA significantly raised its rate of land development during the First Malaysia Plan, from about 25,000 acres to 50,000 acres annually. Similarly, there is no reason to believe that 50,000 acres represents either a maximum or an optimum rate of development, and further pressure should be applied to FLDA to expand its activities to a level consonant with the needs of the country. Clearly, this expansion is not feasible with the present structure of FLDA; it is the structure that should be reviewed, however, not the targets for expansion.

58. In order to meet its responsibilities under the Second Malaysia Plan, the FLDA must recruit and train the personnel necessary for increased management needs. Present recruiting and pay practices are tied to general Government rules and regulations. The FLDA should review alternate solutions to present practices, recognize the difference between the ordinary duties of present institutions and those of expanding organizations, and develop plans and practices that will allow the hiring and retaining of technical personnel necessary to its needs. The most efficient and effective methods must be used by FLDA if it is to meet expanding goals and objectives.

59. The present loan repayment system and other funds collected by FLDA develops resources that are not presently necessary to meet financial obligations. These resources could be used to finance a portion of FLDA's capital requirements and to produce additional funds to meet future obligations. Thus, the Government could release development monies for other projects, i.e., allocate resources set aside for FLDA use to alternate needs.

60. Administration of ongoing projects takes up an increasing proportion of FLDA staff time, and serious consideration should be given to transferring this responsibility to other government agencies working through settlers' associations. In particular, a decision should be made regarding the form of management of schemes, especially oil palm schemes, once the trees come into production -- either as a cooperative, as a corporation or as individual holdings. Sufficient experience exists for a decision to be made on this issue, and there is little to be gained from further delay. With respect to associated infrastructure construction, positive action is called for on the part of the government to ensure that this does not delay land development. Finally, if the government should adopt a more imaginative view towards raising the administrative capacity of FLDA through contracting work to the private sector, then FLDA should be well-placed to make a major contribution to future agricultural development in Malaysia.

MALAYSIA

SECOND JENGKA TRIANGLE PROJECT

THE FEDERAL LAND DEVELOPMENT AUTHORITY

BACKGROUND

1. The Federal Land Development Authority (FLDA) was established under the Land Development Ordinance of 1956 with the duty to "promote and assist the investigation, formulation and carrying out of projects for the development and settlement of land within the Federation."

2. From 1957 through 1960 FLDA's functions were twofold. First, it made available Federal resources, principally financial, to State Governments for approved land development schemes, of which 14 were financed by FLDA in this period. Second, the Authority itself undertook the development of 15 schemes totalling some 15,000 acres on which 2,900 settler families had been settled by the end of 1960.

3. Partly because of difficulties of coordination between the many State and Federal departments and agencies responsible to their several ministries, progress was slow. However, many important lessons were learned and, when in 1961 the Federal Government launched its development program under the 1961-1965 five-year plan, in which the highest priority was given to rural development, FLDA was chosen as the chief agency for planning and implementing settlement schemes. Thus FLDA abandoned the role of "loans board" for State Corporations and became directly responsible for the planning, development, financing, and administration of schemes and for coordinating the work of all Government agencies associated with it in settlement development. The FLDA organization was strengthened by the addition of technical and administrative staff, the reorganization of head office sections and the establishment of a regional office in each of the States of West Malaysia.

4. FLDA's performance since its reorganization has been impressive and Table 1 shows the rapid increase in planted acreage to a total of 257,000 at the end of 1969. The Authority's administration, particularly financial, has not kept pace with this growth, but a recent reorganization together with the appointment of a Finance Director and the attention now being paid by FLDA's top management to its administrative and financial problems should lead to an early improvement. In all the FLDA is fulfilling a vital role in agricultural development, the settlement of people, and the creation of jobs.

ORGANIZATION

5. FLDA's new organization is shown in Chart 1. Previously there were two Deputy Chairmen, one responsible for Development and the other for Administration (including Finance), who reported to the Chairman. In practice, however, some departments tended to report directly to the Chairman. The new

organization should be more efficient through increased delegation, and more clearly defined functions and functional responsibility.

6. The Ministry of National and Rural Development is responsible for FLDA. The Board of FLDA numbers 13 and includes representatives of appropriate ministries, private concerns and the Commonwealth Development Corporation. There are three committees which help guide the Board: (a) technical investigation and planning, (b) finance and (c) establishment.

7. The Chairman is the chief executive officer. The present Chairman has been in the post for over 10 years. Next in line to him is the General Manager under whom there are nine departments - Finance, Administration, Projects, Settlement, Planting, Processing, Marketing, Research, and the Jengka Division. Directors have been or will be appointed to all but Administration, Projects, and Processing, which in the meantime work to the General Manager.

8. Also reporting to the General Manager are the Regional Offices, of which there are eight. Nominally the Regional Secretaries, assisted by Group Managers, are responsible for the schemes in their regions but in practice the schemes are controlled by FLDA headquarters. FLDA intends to increase the powers and responsibilities of the regional offices in future, probably on the pattern established for Jengka.

FINANCE

9. Finance for FLDA is obtained, except for the on-lending of Loan 533-MA and an initial loan from CDC, from Government budget allocations. In addition, funds are allocated, for roads and water supply for example, which are not within FLDA's accounting but which are expended by the Government agency concerned with the agreement of FLDA. The Government budget allocations to FLDA are made in two forms - grants for Administration and loans for Settlement Development.

10. Summarized audited balance sheets for the five years 1964-68 are shown in Table 2. As at December 31, 1968, the Government loan account totalled M$185.7 million and the administration account M$52.1 million. FLDA's total capital, accumulated net income and reserves were M$277.8 million, nearly three and a half times the total at the end of fiscal year 1964.

11. The terms of Government loans are as follows:

(a) Schemes in existence at December 31, 1968:

- Interest at 5%;
- Interest free for first four years after drawing;
- Simple interest for next six years;
- Repayment over next 15 years.

(b) New oil palm schemes after January 1, 1968:

- Interest at 5 1/2%;
- Interest free for first four years after drawing;
- Simple interest for next two years;
- Repayment over next fourteen years.

(c) New rubber schemes after January 1, 1968:

- Interest at 5-1/2%;
- Interest free for first four years after drawing;
- Simple interest for next six years;
- Repayment over next fifteen years.

12. The loan from CDC was signed in 1958 for an amount of M$5.1 million. Interest is at 6-3/4% and repayment is over 25 years commencing in March 1970.

13. M$ 5.3 million was drawn under Loan 533-MA up to March 31, 1970. Interest is at 6-1/4% and repayment is over 12 years after 8 years grace.

14. The terms of loans to settlers are detailed in Annex 9. Interest is at 6-1/4% and repayment is over 15 years from the 6th year after planting of oil palms and the 8th year after planting of rubber.

ACCOUNTING ORGANIZATION AND SYSTEM

15. FLDA's accounts are split between administration and loan items, the basic difference being that administration is paid for by Government grants while loan items, which include the costs of clearing, planting, upkeep, house-lot clearing, house construction and subsistence loans, are financed by Government loan and are repayable by the settlers. The loan account is a consolidation of all development costs charged to schemes, and separate accounts are kept for each scheme.

16. FLDA's accounting organization and procedures failed to keep pace with its rapid expansion and it was not until recently that FLDA began to appreciate the need for a proper system of accounting and financial control. Early in 1968 FLDA appointed Public Administration Service (PAS) of Chicago to carry out a "General Reconnaissance of the Financial and General Administration of FLDA." The PAS report, submitted in January 1969, concluded that the financial administration was inadequate to handle FLDA's present and future financial and accounting problems. The principal shortcomings were:

(a) the breakdown of bookkeeping procedures for current work on settlers' accounts, e.g., loans for housing and subsistence and loan repayments;

(b) the lack of progress in allocating development costs to settlers and in establishing settlers loan accounts;

(c) the delay in preparation of scheme accounts;

(d) the lack of a costing and budgetary control system for FLDA as a whole, mills and factories, development, etc.

17. As a result of the PAS report, FLDA's own growing awareness of the problem and successive reports and recommendations from Bank missions, FLDA has taken the following steps to improve its financial administration and accounting system:

(a) With the assistance of a member of PAS staff, it developed a system for computerization of the accounts. The accounts will be processed by International Computer Leasing Kuala Lumpur.

(b) The financial functions were separated from administration and placed under the responsibility of a newly created position of Finance Director.

(c) The accounts department was reorganized along the functional lines recommended by PAS.

(d) A timetable was drawn up and agreed with the survey department and the auditors for completion of FLDA schemes and settlers' accounts. According to this timetable, the audited FLDA accounts for 1969 will be completed by the end of August, 1970. The audited scheme accounts for 1968 will be ready by July 1, 1970. FLDA has also undertaken that settlers accounts for areas in respect of which settlers had by December 31, 1968 begun loan repayments will be completed according to a timetable agreed with the Bank and that settlers accounts will be completed promptly thereafter.

18. These steps should lead to a considerable improvement in FLDA's financial administration and accounting, but much will depend on the appointment of the Financial Director. The Finance Director will be responsible not only for bringing the financial accounting, including settlers' accounts, up-to-date but for developing and implementing a management accounting system and financial planning procedures.

Audit

19. The accounts of FLDA and schemes other than Jengka are audited by Azman, Wong, Salleh & Co., a local firm. The Jengka accounts are audited by Peat, Marwick, Mitchell & Co. Hitherto, the FLDA audit was not sufficiently comprehensive in either the work carried out or the scope of the report and the form of the final audited accounts could be improved considerably. However, all FLDA's activities, are now being audited and the scope of the audit report has been improved.

ANNEX 1
Table 1

MALAYSIA

2ND JENGKA TRIANGLE PROJECT

FLDA PLANTED ACREAGE

Year	Oil Palm	Rubber	Total
1957-1963	9,000	71,087	80,087
1964	17,000	93,485	110,485
1965	27,000	101,960	128,960
1966	41,000	116,402	157,402
1967	59,000	125,546	184,546
1968	90,000	127,890	217,890
1969	127,000	129,890	256,890
	PLANNED		
1970	157,000	149,090	316,090
1971	186,000	166,090	352,090
1972	217,000	185,232	402,232
1973	247,000	210,232	457,232
1974	277,000	235,232	512,232
1975	307,000	260,232	567,232

April 15, 1970

ANNEX 1
Table 2

MALAYSIA

SECOND JENGKA TRIANGLE PROJECT

FEDERAL LAND DEVELOPMENT AUTHORITY

Summarized Balance Sheets
(M$ million)

As at December 31	1964 (at June 30)	1965	1966	1967	1968
ASSETS					
Development Schemes:					
Loan Account	45.4	72.0	106.4	138.9	180.6
Administration Account 1/	16.7	25.7	-	-	-
Interest Capitalized	8.7	18.2	17.8	26.5	38.1
Total	70.8	115.9	124.2	165.4	218.7
Fixed Assets (Net)	0.6	0.9	4.9	5.1	5.7
Accumulated Administration Expenditure 1/	3.5	5.8	26.3	36.6	47.2
Current Assets (Net)	6.5	5.8	9.8	7.8	6.2
TOTAL ASSETS	81.4	128.4	165.2	214.9	277.8
LIABILITIES					
Capital:					
Government Loan Account	43.9	69.6	107.9	139.0	185.7
Government Administration Account 1/	23.9	36.2	37.7	47.1	52.1
Comm. Dev. Corp. Loan	5.1	5.1	5.1	5.1	5.1
Government Loan (ex IBRD Loan 533-MA)	-	-	-	-	0.7
Total	72.9	110.9	150.7	191.2	243.6
Sundry Funds	0.8	0.5	0.2	1.9	2.3
Accumulated Net Interest	7.7	17.0	14.0	21.1	30.5
Unappropriated Revenue	-	-	0.3	0.7	1.4
TOTAL LIABILITIES	81.4	128.4	165.2	214.9	277.8

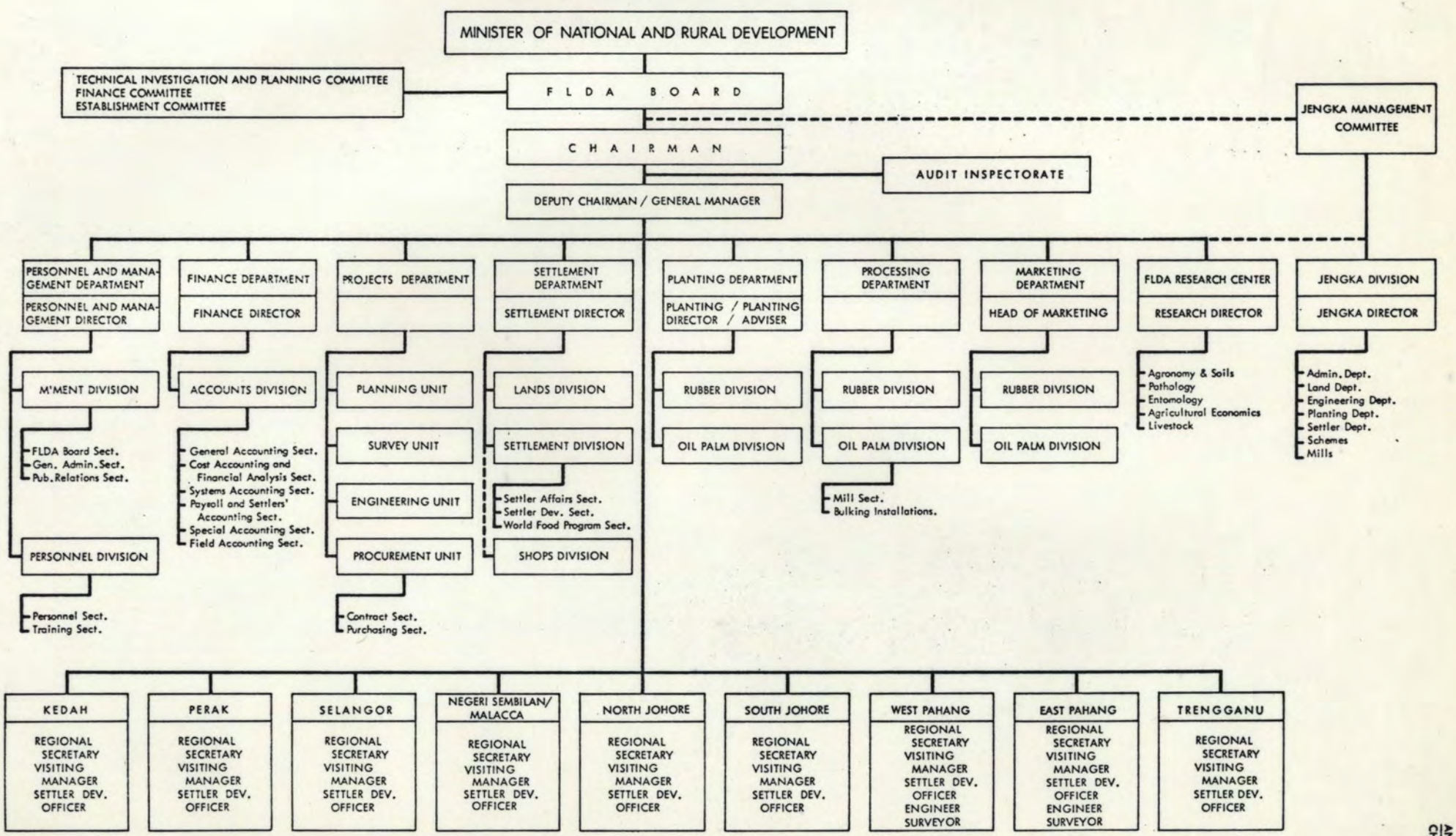
1/ As from 1966 Administration Expenditure was consolidated as one item.

April 8, 1970

MALAYSIA: SECOND JENGKA TRIANGLE PROJECT

FEDERAL LAND DEVELOPMENT AUTHORITY

ORGANIZATION CHART



ANNEX I
CHART

IBRD-4625

MALAYSIA

2ND JENGKA TRIANGLE PROJECT

Project Cost and Disbursement Estimates
(M$ '000)

PROJECT COST ESTIMATES	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	Total
FLDA EXPENDITURES												
Agricultural Development												
Land clearing - payments to contractors	354	2,494	4,144	3,814	-	-	-	-	-	-	-	10,806
Fertilizers and pesticides	-	18	176	680	1,258	1,330	1,551	1,342	647	304	272	7,578
Planting materials	-	499	1,047	274	28	9	4	3	-	-	-	1,864
Other FLDA expenditures	-	-	1,053	1,790	4,402	3,576	3,554	3,078	1,268	790	225	19,736
Total	354	3,011	6,420	6,558	5,688	4,915	5,109	4,423	1,915	1,094	497	39,984
Housing and Houselots												
Land clearing	9	51	108	98	25	-	-	-	-	-	-	291
House construction	-	-	680	1,967	1,905	-	-	-	-	-	-	4,552
Total	9	51	788	2,065	1,930	-	-	-	-	-	-	4,843
Processing Facilities												
Palm oil mill	-	-	-	-	1,000	2,091	545	1,000	91	-	-	4,727
Housing for mill staff	-	-	-	-	-	100	-	100	-	-	-	200
Total	-	-	-	-	1,000	2,191	545	1,100	91	-	-	4,927
Management												
Vehicles and equipment	10	122	154	298	326	205	215	249	122	91	24	1,816
Housing and offices	-	48	246	592	576	67	67	60	30	21	7	1,715
Salaries and other current costs during development	13	160	542	965	1,131	1,131	1,131	1,038	637	519	330	7,597
	23	330	942	1,855	2,033	1,403	1,413	1,347	789	631	361	11,127
Contingencies 1/	-	17	55	96	213	322	168	204	73	52	33	1,233
TOTAL FLDA EXCLUDING INTEREST 2/	386	3,409	8,205	10,574	10,864	8,831	7,235	7,074	2,868	1,777	891	62,114
Interest and commitment charges financed by Bank loan	-	400	600	1,000	1,500	1,700	1,900	2,100	-	-	-	9,200
TOTAL FLDA INCLUDING INTEREST 2/	386	3,809	8,805	11,574	12,364	10,531	9,135	9,174	2,868	1,777	891	71,314
GOVERNMENT EXPENDITURES												
Roads	30	680	1,050	1,647	1,898	1,208	300	-	-	-	-	6,813
Water supply	-	120	540	1,000	940	600	300	-	-	-	-	3,500
Social infrastructure	14	84	795	1,507	1,930	469	611	-	-	-	-	5,410
TOTAL GOVERNMENT	44	884	2,385	4,154	4,768	2,277	1,211	-	-	-	-	15,723
TOTAL FLDA AND GOVERNMENT	430	4,693	11,190	15,728	17,132	12,808	10,346	9,174	2,868	1,777	891	87,037
BRD DISBURSEMENT ESTIMATES (including contingencies)												
100% of:												
Agricultural development - land clearing, payments to contractors	2,494	4,144	3,814	-	-	-	-					10,452
Planting materials	499	1,047	274	-	-	-	-					1,820
Other materials	-	-	23	1,047	398	45	136					1,649
Housing and houselots	51	788	2,065	1,930	-	-	-					4,834
Processing facilities	-	-	-	1,100	2,400	600	1,200					5,300
Management housing and offices	48	222	550	509	-	-	-					1,329
Total	3,092	6,201	6,726	4,586	2,798	645	1,336					25,384
70% of:												
Fertilizers and pesticides	13	123	476	881	931	1,086	939					4,449
Vehicles and equipment	68	57	103	189	-	-	-					417
Total	81	180	579	1,070	931	1,086	939					4,866
Recruitment and Salary of Finance Director	106	100	100	-	-	-	-					306
Interest and commitment charges	400	600	1,000	1,500	1,700	1,900	2,100					9,200
TOTAL DISBURSEMENTS	3,679	7,081	8,405	7,156	5,429	3,631	4,375					42,756

1/ Comprise: Oil Mill M$473,000; Salaries $760,000.

2/ Excluding Technical Services (Finance Director).

April 10, 1970

MALAYSIA

2ND JENGKA TRIANGLE PROJECT

SETTLEMENT OPERATION AND ADMINISTRATION

Settler Selection

1. FLDA schemes are intended mainly for rural people who either possess no land or have insufficient land to obtain an adequate standard of living. Selection of Jengka settlers would conform to this policy.

2. The Federal Government stipulates that 20% of places in all FLDA schemes will be available to ex-members of the security forces possessing the minimum qualifications. In the case of the Jengka Project, the State of Pahang requires that 50% of the settlers (others than ex-servicemen) should be from the State of Pahang, provided they possess the minimum qualifications.

3. Selection is in two stages. First, applicants are interviewed in their home districts throughout Malaysia by FLDA staff and local officials who know the district and its people. At this stage the candidates' general suitability is determined and the basic minimum criteria for selection applied. These are that the candidate:-

- is a Malaysian citizen;
- is married;
- has no serious criminal record;
- is physically and mentally fit;
- is prepared to abide by the rules and regulations established by FLDA;
- has less than two acres of land; and
- is over 18 and under 35 (formerly over 21 and under 45).

4. Following the interview, points are awarded to each candidate, up to a maximum of 30, on the following scales:-

Age	Points	Age	Points	Age	Points
18	4	24	10	30	6
19	5	25	10	31	5
20	6	26	10	32	4
21	7	27	9	33	3
22	8	28	8	34	2
23	9	29	7	35	1

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Number of Children	Points	Ownership of land	Points
5 and above	5	Under 1/2 acre	5
4	3	1/2 acre	4
2	2	1 acre	3
1	1	1-1/2 acres	2
0	0	2 acres	1

Bonus Points - Agricultural Background	Points
Rubber	4
Oil Palm	4
Dusun or vegetable cultivation	1
Animal husbandry	1

5. The final selection is made by FLDA Headquarters on the above points system and the required allotment of places to servicemen.

Development Period

US$ 95 cents

6. On arrival at a scheme - some 2 years after clearing - the settler signs the first part of the settlers agreement. This provides that in return for being permitted to settle on the scheme, the settler works under the direction of the Authority on the development of the scheme. The settler is paid a minimum of M$ 2.90 per day, about M$ 70 a month, for his work and if no work is available, he receives a subsistence loan at the same rate. The settler is required to abide by all rules and regulations of the Authority and if he breaks them, or if he is considered unsuitable in conduct or behavior, he may be required to leave the scheme.

Post Development

7. At the end of the 5th year after palm planting and the 7th year after rubber planting the settler, assuming his performance is satisfactory, signs the second part of his agreement - the Supplement Agreement. This changes the status of the settler from, in effect, an employee of the Authority to that of a smallholder. He is registered as an occupier in expectation of title of approximately 10 acres of rubber or oil palm and a 1/4 acre house lot. In the case of rubber, the settler is allotted a specific area but in the case of oil palm, because it is not practical to cultivate oil palms initially as smallholdings, on schemes other than Jengka he is not allocated a specific area. Once the settler has paid off his loan (see below) the Authority will recommend to the State Government that the State alienate to the settler, in the case of rubber, the 10 acre rubber area and 1/4 acre house lot, and in the case of oil palm the 1/4 house lot, on a 99-year lease. The 10 acre oil palm area will be alienated to a Co-operative Society

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of which the settler is a member. In the case of Jengka, however, it is provided that after five years of production, the settler would be allotted a specific 10 acre lot and he would then choose whether to work his lot individually or participate in a number of lots on a co-operative basis.

8. During the period when any loan repayments or charges are due by the settler to the Authority or the State, the area is managed and administered by the Authority. At all times the settler is required to sell all latex or ffb to factories or mills specified by the Authority for which he shall receive the average price received by the Authority (during the current month for rubber but over the preceding three months for palm oil) after deducting transport, processing, distribution, mill amortization, etc. In the case of oil palm, further deductions are made for upkeep costs and a replanting reserve fund; for rubber the upkeep costs are borne directly by the settler and a replanting reserve cess is recovered at export.

9. Under Loan 533-MA, it was also provided that Jengka settlers would bear the project headquarters and scheme managements costs during the development and operating periods. This arrangement has since been altered and instead FLDA and the Government will introduce arrangements to recover FLDA's administration costs from settlers as a whole (para 5.16 of main report). The amount of the levy for 10-acre oil palm and rubber holdings is shown in Table 5.

Settlers Loans

10. A loan account would be opened for each settler which would be charged with the cost of his house, including clearing the house lot and of developing 10 acres of oil palms or his specific 10 acre rubber lot. At the end of the fifth year after oil palm planting and the seventh year after rubber planting, settlers would be issued with a statement showing the amount of the loan and the repayment due. The statements would also include any loans for subsistence, tools, etc.

11. Interest would be charged at 6-1/4% on the loan and would be capitalized over the development period. The attached tables show the accumulation of the loan account of typical oil palm and rubber settlers.

12. Loans would be repaid by equal annual installments of principal and interest over a period of 15 years commencing on the first day of the sixth year after palm planting and the eighth year after rubber planting. However, during the first two years of repayment on rubber schemes, loan deductions shall be made only in small amounts as will leave the settler with a monthly income of M$ 100. Loan repayments would be deducted at source from payments made by the FLDA owned and operated mills and rubber factories to settlers for their production. The costs of fertilizers and other inputs would also be recovered in this way.

MALAYSIA

2ND JENGKA TRIANGLE PROJECT

Loan Account of Typical Oil Palm Settler
(M$)

	Years from Clearing						
	1	2	3	4	5	6	Total
Field Development Costs	4,080	1,510	2,160	1,460	1,730	1,790	12,730
House and Houselot	61	1,535	-	-	-	-	1,596
Subsistence Credits	-	-	31	117	73	142	363
Total	4,141	3,045	2,191	1,577	1,803	1,932	14,689
Interest @ 6½%	259	465	631	769	922	999	4,045
Less FFB Sales	-	-	-	135	1,619	3,260	5,014
Total	4,400	3,510	2,822	2,211	1,106	(329)	13,720
Accumulative Total	4,400	7,910	10,732	12,943	14,049	13,720	13,720

October 23, 1969

ANNEX 9
Table 1

MALAYSIA

2ND JENGKA TRIANGLE PROJECT

Loan Account of a Typical Rubber Settler
(M$)

	Years from Clearing								
	1	2	3	4	5	6	7	8	Total
Field Development Costs	3,310	2,080	1,360	1,540	1,550	970	920	448	12,178
House and Houselot	61	1,535	-	-	-	-	-	-	1,596
Subsistence Credits	-	-	-	147	37	242	301	337	1,064
Total	3,371	3,615	1,360	1,687	1,587	1,212	1,221	785	14,838
Interest @ 6%	211	450	563	704	847	975	1,112	1,669	6,531
Total	3,582	4,065	1,923	2,391	2,434	2,187	2,333	2,454	21,369
Accummulative Total	3,582	7,647	9,570	11,961	14,395	16,582	18,915	21,369	21,369

November 3, 1969

ANNEX 9
Table 2

MALAYSIA

2ND JENGKA TRIANGLE PROJECT

Summary Timetable of Settler Position
Oil Palm Schemes - Jengka

Year from Clearing	Legal Status	Loan Repayment
1.	-)	Loan amount increasing with various development expenditures.
2.	-)	
3.)	)	
4.) Works under direction	)	
5.) of FLDA	)	
6.)	)	
7.	During year, signs settler agreement becomes occupier in expectation of title to a share in a large block of oil palms in common with a group of other settlers.	Loan repayments commence.
8/10	Continues as in Year 7.)	
	)	
11	During year, becomes)	
	occupier in expectation of)	Loan repayments
	title to a specific 10-)	continue.
	acre block of oil palms.)	
	)	
12/21	Continues as in Year 11.)	
22	Lease granted to settler by State.	Loan repayments terminate.

Note: On schemes other than Jengka, the settler continues as occupier in expectation of title to a share in a block of oil palms until Year 22 when the lease is granted to a co-operative society of which the settler is a member.

October 23, 1969

ANNEX 9

Table 4

MALAYSIA

2ND JENGKA TRIANGLE PROJECT

Summary Timetable of Settler Position

Rubber Schemes

Years from Clearing		Legal Status	Loan Repayment
1.		-	Loan
2.		-	
3.			amount
4.	Works under		
5.	FLDA direction		increasing
6.			
			with
7/8		Signs settler agreement becomes occupier in expectation of title to a specific 10-acre lot of rubber.	various development expenditures
9.		Continues as in Year 7.	Loan repayments commence.
10/23		Continues as in Year 7.	Loan repayments continue.
24.		Lease granted to settler by State Government.	Loan repayments terminate.

October 23, 1969

ANNEX 9
Table 5

MALAYSIA

SECOND JENGKA TRIANGLE PROJECT

MANAGEMENT LEVIES FOR 10-ACRE HOLDINGS

Price Level	Income Increase	Average Annual Income	Management Levy Rate	Management Levy Amount	Net Annual Income
		Oil Palm			
Oil Price (M$/ton FOB)	(M$/ton FFB)	(M$)	(M$/ton FFB)	(M$)	(M$)
424.80	-	3,600.00	-	-	3,600.00
439.68	3	3,866.58	1	88.86	3,777.72
454.59	6	4,133.16	2	177.72	3,955.44
469.50	9	4,399.74	3	266.58	4,133.16
484.41	12	4,666.32	4	355.44	4,310.88
499.32	15	4,932.90	5	444.30	4,488.60
514.23	18	5,199.48	6	533.16	4,666.32
529.13	21	5,466.06	7	622.02	4,844.04
544.04	24	5,732.64	8	710.88	5,021.76
558.95	27	5,999.22	9	799.74	5,199.48
564.02	28.02	6,089.85	9.34	829.95	5,259.90
		Rubber			
RSS 1 Price (M cents/lb FOB)	(M cents/lb)	(M$)	(M cents/lb)	(M$)	(M$)
65.41	-	3,600.00	-	-	3,600.00
70.30	3	4,013.40	1	137.80	3,875.60
72.78	6	4,426.80	2	275.60	4,151.20
76.47	9	4,840.20	3	413.40	4,426.80
80.16	12	5,253.60	4	551.20	4,702.40
85.05	15	5,667.00	5	689.00	4,978.00
90.05	18	6,080.40	6	826.80	5,253.60

MALAYSIA

SECOND JENGKA TRIANGLE PROJECT

The Jengka Triangle Master Plan

1. The project proposed for Bank financing is the second stage of a program for the development of the Jengka Triangle, the Master Plan for which was completed by Tippetts-Abbett-McCarthy-Stratton and Hunting Technical Services (TAMS-Hunting) and was partly financed by a technical assistance grant from the Bank. The first stage of the program is being financed in part by a Bank loan of US$14 million which was signed in April 1968.

2. The Jengka Triangle is in the State of Pahang, about 120 miles northeast of Kuala Lumpur in West Malaysia. It lies between the towns of Jerantut-Maran-Temerloh near the Pahang River and near the railway from Kota Bahru to Singapore (see Map). It covers some 300,000 acres (470 square miles) of which about 136,500 acres are occupied or reserved in some way. The remaining 163,500 acres available for development and being developed consist largely of undulating land divided by many streams and valleys. The climate is typical of West Malaysia with an abundant and evenly distributed rainfall of about 90 inches per annum and mean daily temperature between 77°F and 80°F.

3. The undeveloped part of the Triangle is mainly under natural rain forest which has been exploited haphazardly and inefficiently (para 2.15 of main report). Rubber is produced on the periphery by smallholders and four rubber schemes are being developed by FLDA near the Triangle. Oil palms are grown on the east side of the Triangle at an FLDA scheme and on an adjacent estate.

4. Limited commercial and social services are provided at the towns of Jerantut in the north and Maran in the southeast. Temerloh in the southwest is larger and is a centre of local government and urban services. Prior to its development, the Triangle itself had no settled population.

5. The land capability assessments made by TAMS-Hunting indicated that about 93,000 acres would be suitable for either oil palms or rubber. Some 71,000 acres are definitely suitable for oil palm and the remainder, because it has poorer soil and steeper slopes, would be more suitable to rubber. The decision on which crop to plant also takes into account the price forecasts for each. The consultants' study and the appraisal for the first Bank loan were based on considerably higher prices for palm oil than are now considered likely (Annex 13), and the original land use recommendations will not now be followed. In addition to the main tree crops, fish ponds, rice, orchard and garden crops will be developed by the settlers with technical assistance from FLDA and as part of the Stage II Project about 700 acres will be used at the Research Center, Tekam, for commercial scale trials of other crops, including animal foodstuffs such as maize and sorghum.

6. The Master Plan provides for the phased development of the Jengka Triangle during the 12-year period 1966 to 1977 by means of FLDA supervised smallholder development supported by the provision of rural and urban infrastructure and services. Under Stage I, a total of 33,110 acres have been cleared of which some 23,800 acres will be oil palms and 4,200 acres will be rubber (the original project consisted entirely of oil palms but on soil, topographic and price considerations, the last scheme consisting of 4,200

acres was changed to rubber). The development of 30, 390 acres under the proposed Stage II Project would leave some 35,000 acres for a further stage or stages.

7. It is estimated in the Master Plan that the population of the Jengka Triangle would total some 105,000 people distributed by occupation as follows:

(a)	Settlers and families on new land	59,000
(b)	Settlers and families on existing FLDA schemes being developed and which could eventually be administered as part of the Triangle Program	13,000
(c)	Rural support (FLDA staff, health, etc.)	12,500
(d)	Towns (Government and FLDA staff, commercial, forest industry workers, etc.)	20,000
		104,500

8. Proposed educational and medical facilities were based on the Consultants recommended village size of 100 family units, whereas the Government and FLDA decided that, in conformity with other FLDA schemes, the villages would be of 400 family units. Each village will contain a primary school, midwife clinic, community centre, religious building, recreation field, health sub-centre and police post. There will be a secondary school for groups of two to three villages and it is also expected that upper secondary schools, a teachers' training college and a hospital will be added. There will also be a full range of public services and utilities, including water supplies, sanitation systems, power, telecommunications, and government administration in support of planned development.

9. Full development of the Triangle as specified in the Master Plan would require capital expenditure of about M$345 million (US$115 million) of which FLDA's share would be about M$240 million (US$80 million). Experience on the first two stages indicates that actual expenditure should approximate to these totals.

April 15, 1970

SHARIKAT JENGKA SENDIRIAN BERHAD
TINGKAT 5, BANGUNAN MARA, JALAN TUANKU ABDUL RAHMAN, KUALA LUMPUR. TALIPON 27180/8/9

Bil. Tuan :

Bil. Kami :

Telex : K.L. 276.
P. O. Box 381, K.L.

15th October, 1971.

Mr. Bengt G. Sandberg,
East Asia and Pacific Department,
International Bank For Reconstruction
and Development,
1818 H Street, N.W.,
Washington, D.C. 20433,
U.S.A.

Dear Mr. Sandberg,

We wish to reply to your letter of 19th July 1971 with respect to the Bank's Mission in May of this year. Our comments are as follows:

Timber Licenses

The formal agreement and map regarding the Mahawangsa Timber Industries concession of about 10,000 acres Berkelah Forest Reserve have been forwarded to the Bank.

Co-operation between Project Management And The State Forest Department

The National Action Committee (NAC) which met on 1st September 1971 has directed that the Jengka Development Corporation (JDC) will be the authority responsible for the development in the Jengka. The Prime Minister who is also Chairman of the NAC has given specific instructions to the JDC to initiate action to assist in solving Sharikat Jengka Sendirian Berhad's (SJSB) problems regarding forestry matters as well as other Jengka matters.

The newly appointed State Secretary, Pahang, Enche Abdul Aziz bin Hussain, has established a Steering Committee which will meet at least once a month and whose members are representatives of the State Government, SJSB, Forest Department and the JDC. Other members may be coopted as required. The meetings will be chaired by the State Secretary. The first meeting was held on the 28th September 1971.

Arising from the meeting on the 28th September 1971 and the meeting of the Board of the JDC earlier, two sub-committees met recently on the 4th of October 1971 to resolve the question of closing and handing over the area required by FLDA, payment of royalties on trees left standing, the system to be adopted in scaling the large

volume of logs produced by SJSB, the mixing of logs from different license areas and other matters that involve the Forest Department's procedures affecting the operations of the SJSB.

State Forest Department Procedures

Most of the matters commented upon by the Mission under this heading have been discussed at the meetings mentioned above.

Annual Felling Licences

The Steering Committee meeting of 13th October 1971 accepted the following recommendations:

(a) Logs from more than one licence may be mixed. SJSB will formally request approval from the State Forest Officer to do this.

(b) Double Premium payments have not arisen since paying twice on the Regional Centre. The Committee received a recommendation that SJSB be given more time to complete logging of the schemes. A two year extension of SJSB's Logging Programme will be recommended to FLDA.

Royalties

The extension of time recommended in paragraph (b) above would permit SJSB to hold its licences long enough to cover a broader market situation. This would result in logging closer to the requirements of the Licence and hence reducing or nullifying closing reports (Licence premium fees are paid for twelve months. Actually they frequently are required to be given up in four months.)

Royalty Scaling

The Steering Committee of 13th October 1971 accepted a recommendation that experimental scaling procedures be tried. Details are to be worked out 21st October 1971 at a sub-committee meeting.

Defect Allowance

SJSB will carry out tests as recommended. Attempts are being made to have Forestry Department officials to participate in this study.

Forestry Legislation

SJSB feels that the Treasury is the appropriate agency to initiate this action with the relevant Ministries. SJSB has made numerous approaches to Pahang State and Federal Forestry officials on all of these matters.

Housing

The Treasury has advised that the Federal Government could not offer assistance in constructing housing for SJSB in Jengka. However, discussions with the JDC have progressed considerably and the JDC has now taken steps to clear by March 1972 about 240 acres of the township area for the purpose of providing the housing. JDC is also preparing plans for the houses to be built for rental. With the recent directive from the Prime Minister to JDC, the Corporation has stepped up its activities in developing the township. Six acres of land have been cleared for the Corporation to build its offices which will provide office space for the Forest Department and other departments involved in the Jengka. Some housing will also be built for the personnel of these departments and for housing the Forest Department staff that will be working in the area.

One major problem is the question of power for the housing required by SJSB. The SJSB's own generators will not be able to spare much power to the JDC for the houses. The Corporation's negotiations with the National Electricity Board (NEB) indicate that the power from the national grid will be available in Jengka sometime in 1974. SJSB, however, will spare between 200-300 kwh to provide for the initial requirement of the housing area. It is hoped that the JDC will be able to persuade the NEB to set up a temporary station to cater for the additional power required until such time as the supply from the national grid becomes available in the Jengka Triangle.

Financial Position and Prospect

General and Administrative cost control has improved. Budgets for the next 12 months are being prepared.

Control of Current Assets to some extent is dependant on market conditions. Stores inventories are being controlled.

Surtax paid, of approximately $500,000, will be reclaimed as soon as Pioneer Status is approved. The application for Pioneer Status and all queries with respect to it have been completed. Decision is expected during November 1971.

Living Allowances paid will be refunded periodically by application to the Bank.

Project income statements, cash flow statements are being prepared monthly. During the next year this will continue to be done. Every 3 months operating profit forecasts including estimated balance sheets etc. will be prepared in conjunction with the Marketing, Forestry and Processing Divisions.

A 12 month budget will be prepared each year along with an updated 5 year projection.

Inventory reports will be initiated which will graphically show any trends deviations from standard and budgeted levels.

Aged receivable lists are prepared weekly which are necessary for proper collection and credit control.

Payables ageing lists are not prepared monthly as we feel the amount of work and time involved does not serve the purpose; however, lists will be prepared every 3 months showing those suppliers who have allowed us credit beyond the normal 30 day period.

The format of the progress report proposed by the Bank does not suit our own reporting requirements; consequently we suggest we discuss this matter during the visit of the next Mission in order to settle this to the satisfaction of both parties.

Other Matters

A. Inventory and Forest Management

Satisfactory progress is being achieved to complete the merchantability inventory in the remaining areas in the Jengka Triangle and those parts of the Berkelah, Tekam and Tekai Forest Reserve.

Forestry Division is updating and revising its forward logging and road construction programmes.

Inventory for Scheme 14 was made available to Marketing Division and that of Scheme 15 is being completed and will be passed to them for their marketing plan.

SJSB is working on and will complete within six months its survey of the future forest and will define the 300,000 acres that has been guaranteed.

A sustained yield forest plan will follow the demarkation of the 300,000 acres.

B. Water Supplies

The State Government had completed laying the water mains to the Mill areas capable of supplying 200,000 gallons a day. Two storage tanks with a total capacity of 140,000 gallons are erected and connections to the mains will be made very soon. Water from the public mains is now available for supply to the personnel resident at the camp. A decision has been made to exclude the raw water supply that was originally planned.

C. Market

Marketing Division is aware that export sales should be given top priority and that any shortcoming to the projected 80% export 20% local sales will be disastrous to the company's

cash flow. It is, however, imperative that the quality of export goods is well up to standard. At this time all the processing facilities as well as Forest Inventories are not completed so forecasts are not yet completed.

With Japanese log consumption down for the first time in 20 years and Indonesian log production still on the increase we are doubtful of any significant improvements in the log export situation over the next 12 months. With our own processing facilities coming into production, however, an increasing portion of otherwise exportable logs will be needed to feed these production lines, and during 1972 we will run into the situation that we will not have any logs available of species required by the export market.

On sawn and processed products and plywood we take a more optimistic outlook. A well manufactured, well presented commodity always has a market, and on these counts we ought to be clear ahead of the local competition. The agents, The East Asiatic Company, held a Timber Symposium in Kuala Lumpur in August 1971. Their delegates were given extensive exposure to SJSB and its capabilities.

D. Organisation and Management

Regular meetings of the Divisional Heads are being held to improve the operation of the SJSB's activities. The SJSB Board has decided not to move the Headquarters to Kuantan as proposed by the Mission but action is being taken to provide extra temporary accommodation around the present accommodation so that more staff can move to Jengka as early as possible. The consultants have established their own office and are moving their activities to their own quarters.

Training.

Appraisal of all staff will be completed and reviewed prior to 1st November 1971. This will indicate progress with respect to the take over by local staff.

Liaison with FLDA

JDC has taken steps to effect close liaison between all bodies carrying all projects in the area. Close liaison therefore, has been established between SJSB, FLDA, JDC, JKR and all other government agencies involved in the implementation of the projects in the Jengka Triangle.

SJSB has submitted its views on how the cost-sharing of the class I roads should be worked out to the JDC which has held a meeting with Treasury. We are expecting the details of the cost-sharing as approved at any time.

Negotiations have been held between FLDA and SJSB with the Railways on the proposed transportation of the Jengka

Triangle and by rail from there to Port Swettenham. The Ministry of Transport has carried out a special study on this scheme and is preparing a paper for submission to the Cabinet on the above subject.

SJSB during the year had approval from FLDA to bypass Scheme 13 due to the unsuitability of the timber species for the current market. Studies are being completed on the remaining schemes in order to negotiate a final programme with FLDA.

JDC is establishing headquarters in the Regional Centre and they have the responsibility to establish all the infrastructure requirements for the Jengka Triangle.

Future Developments

The responsibility of Cantrans is limited to the present programme. Cantrans has submitted to the Chairman of EXCO SJSB preliminary advice with respect to future developments.

We trust that these comments will give sufficient answers to your enquiries. We look to the visit of the Mission in November.

With best personal regards,

Yours sincerely,
for and on behalf of SHARIKAT JENGKA
SENDIRIAN BERHAD.

(Mohd. Rasli bin Mohd. Nawi)
Managing Director.

MRMN/FWF/pfa

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

INTERNATIONAL DEVELOPMENT ASSOCIATION

OFFICE MEMORANDUM

TO: Mr. D. J. Parsons DATE: June 28, 1971

FROM: R. D. H. Rowe, D. Lomax and L. Ljungman

SUBJECT: MALAYSIA - Loan 673-MA
Jengka Forestry Project
Full Supervision Report

In accordance with our terms of reference dated April 7, 1971 we visited Malaysia from May 9-25 reviewing progress on the Jengka Forestry Project. A list of places visited and officials met is at Annex 1.

Project Data

1.01	Amount of Loan	:	US$8.5 million
	Amount Disbursed (as of May 1971)	:	US$4.8 million
	Date of Loan Agreement	:	May 20, 1970
	Effective Date	:	October 14, 1970
	Closing Date	:	June 30, 1974
	Date of Last Supervision Mission	:	November 1970
	Current Exchange Rate	:	US$1 = M$ 3.06

1.02 The project is the establishment of a forest industries complex in the Jengka Triangle to extract, process and market timber from the Triangle and the Tekam, Tekai and Berkelah Forest Reserves. It includes:

- a mechanized logging unit with an annual extractive capacity of 200,000 tons of logs;
- a sawmill with an annual capacity of about 42,000 tons of sawn timber and ancillary drying kilns, planer mill, moulding plant and impregnation plant;
- a plywood mill with an annual capacity of about 60 million sq ft (quarter inch basis); and
- steam generating plant, water supply and other necessary facilities and the construction of offices and semi-permanent houses.

1.03 The project is being carried out by Sharikat Jengka Sendirian (SJSB), a subsidiary of Majlis Amanah Ra'ayat (MARA), and managed by Cantrans Services (1965) Ltd. under a four-year Management Agreement. Dencan Managers (Hong Kong) Ltd. are responsible for marketing under a three and a half year agreement with SJSB.

Summary

2.01 Despite current problems the project is well conceived and is being executed soundly. Although the start up of the sawmill and plywood plant has been delayed four months by the transportation problem - now solved by the installation of a ferry close to the damaged Temerloh Bridge - physical progress is good. Field management is strong and prospects of effective overall management have improved since the appointment of the General Manager.

2.02 The financial situation of SJSB necessitates an injection of funds. Future prospects are reasonable. Due to increases in scale of logging, cost of semi-permanent housing and working capital requirements, project costs will be about 20% over the appraisal estimate. Profits will build up more slowly due to lower sales and prices together with increasing costs. The economic rate of return is now estimated at about 20% and the financial return to SJSB about 7%. Disbursements to date total US$4.8 million and 96% of the loan will have been disbursed by mid 1972.

2.03 The project's main problems are related to the depressed log market, absence of improvement in the State's cumbersome forestry procedures and the continued lack of cooperation between the State Forestry Department (SFD) and the project. Also of concern is the slowness of Government to provide residential housing and water supplies in the project area. Since the mission returned the Managing Director of SJSB has indicated that the problems over forestry procedures and cooperation with the SFD are being taken up with the Government at Federal and State level.

Action Recommended

3.01 The mission recommends that a letter and memorandum be sent to the Government (draft is attached) setting out the issues and problem areas requiring action. The most important of these are:

(a) that SJSB defines the boundaries of the 300,000 acres of productive forest within the Berkelah, Tekai and Tekam Forest Reserves and prepares a sustained yield forest management plan for the portion of productive forest which is not scheduled for land settlement (para 5.01);

(b) that the signed legal documents and map concerning the agreed concession area for Mahawangsa Timber Industries' operations are forwarded to the Bank by the end of July (para 5.02);

(c) that the SFD takes positive steps to improve cooperation with the project and that its rules and procedures will be streamlined to fit more closely with the requirements of the project's large scale integrated forestry operations (paras 5.03 and 5.04);

(d) that the Federal Government assumes responsibility for building residential quarters in the regional center for project staff and insures an adequate supply of water to the project area (paras 5.05-5.07);

(e) that Dencan initiates market promotion activities and reviews prospects of early diversification into secondary and tertiary wood products (para 5.08);

(f) that the Chief Executive Director, MARA, keeps SJSB's management and training program under constant review and initiates the immediate action recommended in paras 9.01-9.04;

(g) that SJSB seeks further financing in the form of more equity and a short-term loan to cover the cash flow deficit (para 7.02); and

(h) that SJSB keeps its operating costs, profit margins and administrative costs under constant review and control (paras 10.04-10.05).

3.02 The next supervision mission should take place in November 1971 and include a consultant sawmill/plywood plant specialist. It is also recommended that the Federal Land Development Authority (FLDA) Jengka Triangle settlement scheme be supervised at the same time so that matters of mutual concern can be discussed. These are:

- cost sharing for FLDA Class I and II roads that are required by both projects;

- joint approach to the Railways' Administration for facilities to transport finished products (rubber, palm oil, sawn timber, plywood, etc.) from the Jengka Triangle to Port Swettenham;

- revision of the order in which scheme areas are felled to enable more economical logging; and

- establishment of facilities in the regional center.

Physical Execution of the Project

4.01 Physical execution of the project has been delayed by about four months mainly due to the January floods that damaged the Temerloh Bridge and disrupted communications between Kuala Lumpur and Jengka until the end of April. A ferry installed by the project half a mile north of the bridge is now in full operation and will be able to handle all Jengka forestry traffic until reconstruction of the bridge is completed in about four years. Bailey bridges have been used to replace the sections carried away by the floods and the bridge is now open to vehicles weighing up to 18 tons. However, as timber loads frequently exceed this amount and weighing stations

have been set up at both ends of the bridge, all Jengka logging trucks crossing the Pahang River at Temerloh are encouraged to use the ferry. Mapping, inventory cruising road construction and the establishment of export facilities in Kuantan are on schedule.

4.02 Logging. The logging unit is capable of working at a full capacity of some 720 tons 1/ per day but due to the poor log market, is currently producing about 400 tons. This has made it necessary to postpone the felling of FLDA Scheme 14 to 1972. Revised details of log production and distribution are given in Annex 2.

4.03 Log sales dropped from an average of 450 tons/day in November to 70 tons in January. They picked up again in April to 300 tons and are currently running at about 350 tons daily. However, as over the past six months, log sales have lagged behind production and the total volume of unsold logs by April 30 amounted to about 6,400 tons. Some of this has been written-off and burnt; the remainder will be sold at reduced prices. This highlights one of the difficulties facing this project. Under normal circumstances SJSB would be able to slow down their felling program until the log market improved, but with FLDA pressing for scheme areas to be released for clearing, this is not possible. An interim solution suggested by the mission to hand over schemes in which all currently marketable timber had been removed and to waive royalty on the standing merchantable - but not presently marketable - trees, was not received favorably by the State authorities. It is estimated that in Scheme 12 alone royalties amounting to over M$ 160,000 will be charged on 15,000 tons of standing timber left in the forest that under present circumstances could not be sold. This matter should be taken up again by the next supervision mission.

4.04 Two other factors are compounding difficulties by depressing average log sale prices:

- a decrease in the amount of high value Meranti accompanied by an increase in the volume of low value Kempas (Annex 3); and
- a lower than expected log quality from Scheme 11 (Annex 4).

4.05 Roads. The road unit has cleared 54 miles, graded 47 miles and surfaced 16 miles of main and spur roads since start-up in 1969 and is well ahead of logging.

4.06 Negotiations to construct 40 miles of FLDA's road requirements in the Jengka Triangle on a cost-sharing basis have progressed slowly. SJSB's estimates of M$ 122,000/mi for Class I and M$ 71,000 for Class II graveled surfaced roads were submitted to FLDA and the Government's Public Works Department (JKR) and the meeting between the three authorities is scheduled

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1/ The "forest ton" used here is a unit of volume of 50 cu ft and has no relation to weight.

for June. Remuneration for this work has not been taken into account in the project's financial projections.

4.07 Survey of the 18-mile main access road from the regional center to the Berkelah Forest Reserve (see Map) will be started in July and construction begun later in the year.

4.08 Processing. The sawmill has been erected and start-up is planned for June, three months behind schedule due to the floods. Total production for fiscal 1970/71 is expected to be about 1,700 tons 1/ instead of the 4,000 tons originally planned. Production is likely to reach 33,000 tons in fiscal 1971/72 and full capacity of 41,700 tons in the following year.

4.09 Although the plywood plant is scheduled to start-up in January 1972, four months behind schedule, production in fiscal 1971/72 is expected to be 36 million sq ft (quarter inch basis) as originally planned and is likely to reach full capacity of 60 million sq ft (quarter inch basis) in the following year. Over 90% of the equipment has been ordered.

4.10 Log export facilities, to provide storage handling and loading for a maximum of 9,000 tons a month, have been established on a temporary basis in Kuantan, until the jetty is constructed at the permanent 5-acre plot purchased by SJSB. The new site should be ready for next season's log exports.

4.11 In addition to the semi-permanent housing for the forestry division labor, SJSB and Cantrans staff, similar quarters are nearly completed for the processing division's labor and operators.

Detailed Features and Problem Areas

5.01 Timber Exploitation, Inventory and Forest Management. A planning forester has been employed to undertake a merchantability inventory in the remaining areas of the Jengka Triangle and in those parts of the Berkelah, Tekai and Tekam Forest Reserves that fall within the agreed project area (see Map). This will enable:

- the Forestry Division to update and, if necessary, revise its forward logging and road construction plans;
- the Marketing Division to prepare a sales-program based on a more accurate assessment of the volumes (by species and quality) likely to become available in the future;
- SJSB to define the boundaries of the 300,000 acres of productive forest guaranteed to the project within the agreed area of some 630,000 acres so the balance can be handed back to the State; and

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1/ A sawn timber ton of 50 cu ft true measure.

- a sustained yield forest management plan to be prepared for that portion of the guaranteed area of productive forest which is not going to be cleared for land settlement.

5.02 Licensing. All parties have now agreed to the alternative location of Mahawangsa Timber Industries' concession of about 10,000 acres in the Berkelah Forest Reserve (see Map). During a meeting on May 18 with the State Secretary for Pahang, we were advised that signed legal documents and the map would be forwarded to the Bank by the end of July. A helicopter flight over the project area revealed that encroachment is not taking place elsewhere but this needs to be checked by subsequent supervision missions.

5.03 State Forestry Procedures. The SFD's cumbersome procedures and lack of cooperation continue to impair the efficiency of the project operations. A committee set up in November 1970 as a forum to discuss matters of mutual concern has not met since and procedural problems are still unsolved. These matters were discussed at Federal and State levels and the following specific action recommended:

(a) SFD to:

- reactivate the forestry committee at State level to maintain a continuing dialogue on forest rules and procedures and to resolve specific issues as they arise;

- review the rules and regulations governing annual felling licenses to eliminate the need for keeping logs from each area in separate piles, and to avoid double premium payments where fellings are delayed awaiting an improvement in the market;

- review the current practice of charging royalty on unmarketable standing trees, undersized logs and defective butt-end chunks of less than 2 ft; and

- investigate ways of streamlining its checking stations, closing report and log export procedures on the lines suggested by SJSB and the Bank.

(b) SJSB to:

- improve public relations with the State officials and inform them of the benefits, in addition to royalty, to be gained from the project;

- prepare proposals for a revision of the royalty scaling procedures to enable measurement in the log yard of the 1,000 logs per day expected at full production; and

- run recovery tests once the sawmill is in operation so that actual defect measurements can be presented to the SFD as a basis for determining defect allowances.

5.04 The Federal Government was not receptive to the suggestion that outside assistance be sought to revise the country's obsolete forestry legislation largely responsible for these procedural problems. However, the matter should continue to be raised by supervision missions.

5.05 Housing. It had been agreed previously that the Jengka Development Corporation (JDC) would develop a township for project staff but despite assurances given to the last mission nothing has been done. The Federal Government has agreed that if State funds are not forthcoming from the JDC by June it will assume responsibility for building residential quarters through the recently formed Housing Development Corporation. This understanding will have to be confirmed and implementation followed closely.

5.06 Recreational facilities are also urgently required as a means of attracting and keeping staff. It was suggested that SJSB's road construction unit could supply the equipment necessary to level off areas for football and badminton. At a later stage there may be good justification for constructing a swimming pool.

5.07 Water Supplies. Pumped water will not be available at site until the end of June, three months later than scheduled. The mission has recommended that a further assessment be made to ensure availability matches future needs.

5.08 Markets. Although the long term market prospects for Malaysia's logs and timber remain good, the presently depressed Japanese log market is causing concern. Improvement is not expected until the fall. There is need for market promotion and early diversification into secondary and tertiary wood products such as furniture component parts and pre-fabricated houses to increase the financial return and improve the cash flow. The mission's recommendation to post one of East Asiatic Company's (EAC) timber marketing specialists to Kuala Lumpur for two months, and EAC's proposal to organize a "Timber Symposium" at Kuala Lumpur in August for its timber representatives around the world, will further these objectives.

Project Costs

6.01 Annex 5 gives the latest cost estimates for the project and Annex 6 gives details of equipment and facilities. Final equipment cost are not likely to vary from the estimates. Annex 7 compares the current estimates with those in the appraisal report.

6.02 The increase of about M$ 8.5 million (20%) over the appraisal estimate is due to the following factors:

- increase in the scale of logging from 175,000 to 200,000 tons a year;

- increase of M$ 4 million in semi-permanent housing and camp facilities for forestry and processing personnel;

- management fees for additional services and the increased value of the Canadian dollar; and

- higher working capital requirements.

Project Financing

7.01 The increase in project costs coupled with the operating deficits require additional financing. Annex 8 gives details of the current project financing from which it is clear that SJSB will need to resort to some form of funding to cover the future cash deficit of M$ 5.8 million.

7.02 It is recommended that funds totalling about M$ 5.5 million be provided as follows:

Ordinary Capital	M$ 2.5 million
Short-term Loan	M$ 3.0 million
	M$ 5.5 million

Any further financing can be provided by bank overdrafts. The following tables shows the originally proposed and new recommended capital position of SJSB:

	Original	Revised
Ordinary shares	13.0	15.5
IBRD loan	26.0	26.0
Short-term loan		3.0
	39.0	44.5
Debt as % of capital	67%	65%

7.03 Under section 2.13 of the Project Agreement the Bank will be required to give prior approval to SJSB incurring this further indebtedness.

Procurement and Disbursement

8.01 Annex 9, Table 1 contains the schedule of disbursements and Annex 9, Table 2 shows estimated projections and foreign exchange expenditures by quarters. US$4.8 million (56.4%) of the loan has been disbursed. By mid 1972 96% will have been disbursed.

Organization and Management

9.01 With the appointment of Mr. F. W. Fearman as General Manager three months ago, SJSB has come into being as an operational entity and the prospects of effective management are good. However, the Malay Managing Director,

Mr. Rasli and Deputy General Manager, Mr. Yusuff, have failed to understand their new role and tend to be passive and critical. This is evidenced by their lack of performance in helping to solve the current problems of housing, forestry procedures, water supplies and training. We agreed with the Chief Executive Director of MARA, Mr. Ishak Tadin, that no drastic action with regard to personalities was warranted until the results of the following steps, which have been agreed to by Mr. Ishak Tadin, could be assessed in six months' time:

- reactivation of the management committee as a means of helping Malay management to participate and benefit from training;

- relocation of HQ to Kuantan (until housing is ready in the project area) closer to Jengka and the State authorities;

- re-assignment to other tasks of the UNIDO management adviser whose role has come to an end now that effective overseas management exists; and

- allocation of specific tasks (housing forestry, procedures, etc.) to the Malay elements of the management team.

9.02 It was also agreed with Mr. Tadin that, as the General Manager assumes greater control of SJSB the three-man Cantrans team (Pyper, Wilfert and Welsh) should move from an operational to an advisory role. This is supported by the Managing Director of Cantrans, Mr. Pyper.

9.03 SJSB's Board members and project staff are listed in Annex 10 together with the contract period for each Cantrans/Dencan staff member and dates of appointment of counterpart staff. Annex 11 shows the revised SJSB/Cantrans/Dencan organization chart.

9.04 Training. On-the-job training for logging, road construction and sawmilling personnel at the operators' level has proceeded well but little progress is being made with the foreman, middle and upper level management training programs. The mission recommended that SJSB intensifies its search for suitable management staff and gears its program so that local staff are adequately trained to take over before the departure of individual members of the Cantrans/Dencan team. Subsequent supervision missions will need to follow progress in this field and assess the prospects - presently not bright - of SJSB running the project efficiently in two and a half years' time.

SJSB's Earnings, Cost Flow and Financial Position

10.01 The financial benefits of the project to SJSB will be lower than estimated at last supervision. Revised income statements, supporting operating statements, sources and applications of funds and balance sheets for 1970 (actual) and 1971 through 1975 are shown in Annexes 12 to 14.

10.02 The difference in net profit before interest at last supervision and this is as follows:

	1971	1972	1973	1974	1975
Last Supervision	(705)	4,815	7,121	7,664	7,848
Current Estimate	(1,771)	2,599	5,754	5,908	6,311
Difference	(1,066)	(2,216)	(1,367)	(1,756)	(1,537)

10.03 Annex 15 contains a variance analysis of income and expenditure. Lower profits are due to:

- higher administration costs (expansion in staff);
- delay in revenue from sawmill due to late start up;
- softening timber market causing quantity as well as price variances in 1971 and 1972; and
- cost variances (overheads, royalties and road maintenance).

10.04 SJSB's profitability depends on many factors, above all on efficient management with constant control of costs and maximization of sales revenues. Attention has to be paid to the following:

- administrative costs need to be thoroughly examined and controlled;
- with exports yielding much higher prices they must be built up as quickly as possible;
- conversion of locally purchased timber to export quality needs to be investigated; and
- control of current assets.

10.05 SJSB did not comply with the Bank's request to have various financial information prepared (projected income statements, cash flow, etc.). It was therefore recommended that these documents be prepared for the next mission in November 1971 and thereafter at about six monthly intervals to coincide with Bank missions. Management should also prepare monthly inventory situation reports, and receivables and payables aging lists.

10.06 It is further recommended that when projected income statements are prepared that:

- timber availability be agreed for each year with forestry department;

- production capacity requirement be agreed with processing department; and

- prices and sales mix be agreed with marketing department.

The implication of these factors should be thoroughly examined by the departments concerned.

10.07 During the mission a review was made of the auditors comments. Everything is now satisfactory except that Pioneer status for tax exemption although applied for, has still to be granted.

Prices

11.01 Average domestic sale log prices have remained at about M$ 37 per forest ton considerably below the November 1970 estimates due to the depressed log market and reduction in log quality and volumes of Meranti in Scheme 11 (para 4.04). In an attempt to raise the average sale price, merchantability classes have been reduced from three to two grades on the assumption that the bulk of Grade B logs will be re-classified Grade I logs. The current domestic log sale price list is shown at Annex 16. The re-calculated weighted average domestic log sale price (Annex 17, Table 1) is M$ 39/forest ton. Log exports show a profit margin of between M$ 7 and M$ 10/forest ton whereas logs sold in the domestic market show a break even position.

11.02 No change is expected in the average sale prices of exported sawn timber and plywood (Annex 17, Tables 2 and 3), but the price of sawn timber sold in the domestic market has been reduced from M$ 170/ton to M$ 125/ton to allow for a lower than anticipated demand for timber kiln-dried to 12% moisture content.

Benefits

12.01 Annex 18 gives revised calculations of the economic and financial rates of return. The economic rate of return is now estimated at 20% and the financial return is at about 7% (appraisal 29% and 15%). The difference between the two is mainly due to the substantial royalties and premia accruing to the State Government. These calculations are based on the lower prices now obtaining and the returns would improve if prices harden.

12.02 While the project's returns will depend primarily on actual prices and quantities for sawn timber and plywood, important secondary benefits should be derived from the further expansion outlined below.

Future Development

13.01 Plans for establishing a component part factory, pre-fabricated housing plant, particle board plant, a cabinet factory and veneer slicing section are presently being studied by Cantrans. These additions which would ensure maximum utilization of the raw material would substantially

increase the project's returns. The next supervision mission should review the position and advise on the feasibility studies required and possible sources of finance.

Reports

14.01 A revised format (Annex 19) for the monthly progress report was developed by the mission and SJSB to ensure comments on all important issues.

RRowe:DLomax:LLjungman
MT/ST Agri. Projs.
IBRD
June 29, 1971

cc: Messrs. Chadenet/Baum/King/Rovani/Lee/Engelmann/Lithgow/Elliot/Perch/Evans/Wapenhans/McIvor/Adler/Darnell/Takahashi/Veraart/Forcum/Sandberg, Jentgen (Area)/Hasal/Sassoon
Central Files

Mr. Ishak Tadin
Chief Executive Director
MARA
Kuala Lumpur, Malaysia

Dear Mr. Tadin:

Messrs. Raymond Rowe, David Lomax and Leonard Ljungman have reported on their recent mission to review progress on the Jengka Forestry Project. The enclosed memorandum contains their principal findings and recommendations which we feel will be helpful to the project authorities. Also attached are four copies of the project's latest financial projections and the suggested format for future monthly progress reports.

The mission was pleased that the transportation problem had been solved satisfactorily and impressed with physical implementation in spite of delays caused by the floods. Despite the current problems referred to in the attached memorandum that are cause for concern, the mission considers the project is well conceived and is being executed soundly.

We are informed by the mission that all parties have agreed to the alternative location of Mahawangsa Timber Industries' concession of about 10,000 acres in the Berkelah Forest Reserve and hope shortly to receive from you the legal documents and map signed by the Chief Minister for Pahang.

The mission was severely critical of the continuing absence of cooperation between State forestry officials and SJSB, lack of progress on improving the rules and procedures applied by the State forestry officials to the project and slowness to make provision for project staff residential quarters in the Jengka Triangle.

With respect to cooperation there has been no follow-up of the recommendation made by the Bank in December 1970 that meetings should be held between the various agencies and authorities concerned with the project's execution to discuss and resolve problems of mutual interest. We believe that regular meetings between State forestry officials and project management including SJSB's consultants will improve relations and lead to the introduction of modified rules and procedures more suited to the needs of West Malaysia's first large scale integrated forest industrial complex.

Regarding residential housing it will be important to follow-up the Treasury's statement that if State funds are not forthcoming from the Jengka Development Corporation the Federal Government would assume responsibility for building these quarters through the recently formed Housing Development Corporation.

Due to a softening of the Japanese log market, delays in commissioning the project's processing facilities, higher administrative and production costs and an increase in project costs, there will be a cash

deficit of about M$ 5.8 million in 1972. We would recommend that this be resolved by raising M$ 2.5 million of equity capital and M$ 3.0 million as a short term loan with some overdrafts being used to cover any further deficits.

We look forward to receiving your comments on these matters and, in particular, to learning how you intend providing capital to cover the cash flow deficit. We will continue to follow the project with interest and plan to send our next supervision mission in the autumn of this year.

With best personal regards,

Yours sincerely,

Bengt G. Sandberg
East Asia & Pacific Department

MEMORANDUM

MAJOR FINDINGS AND RECOMMENDATIONS OF THE MAY 1971 MISSION TO REVIEW THE PROGRESS OF THE JENGKA FORESTRY PROJECT

Timber Licenses

Now that agreement has been reached by all concerned to the alternative location of Mahawangsa Timber Industries' concession of about 10,000 acres in the Berkelah Forest Reserve, the Bank requires that the formal agreement and map signed by the Chief Minister for Pahang be forwarded as soon as possible. These documents will then form part of the Loan Agreement.

Cooperation between Project Management and the State Forest Department

Lack of cooperation between the State Forest Department and SJSB continues to be a problem. The committee set up in November 1970 which has not met since, needs reviving. Apart from discussing and resolving problems of mutual concern, SJSB could use the committee as a means of improving public relations and impressing State Forestry Authorities of the benefits in addition to royalty that will result from the project (e.g. foreign exchange earnings, employment, improved utilization of the forest resource, promotion of secondary species, multiplier effects, etc.)

State Forest Department Procedures

The State Forest Department's cumbersome procedures continue to impair the efficiency and profitability of the project. The main problems were discussed at Federal and State levels and the following specific action recommended.

Annual Felling Licenses

Review the rules and regulations governing annual felling licenses to (a) eliminate the need for keeping logs from each licensed area in separate piles and (b) avoid double premium payments where fellings are delayed awaiting an improvement in the market.

Royalties

Review the current practice of charging royalty on non-marketable standing trees, undersized logs and defective butt-end chunks of less than 2 ft. In Scheme 12 alone it is estimated that SJSB will have to pay about M$ 160,000 in royalties on standing trees which presently are not marketable.

Procedures

Investigate ways of streamlining the State Forest Department's checking station, closing report and log export procedures on the lines suggested by the Bank and SJSB.

Royalty Scaling

SJSB to prepare proposals for revising royalty scaling procedures to speed up operations and allow for measurement to take place in the project's log yard. At full capacity, some 1,000 logs a day will have to be measured.

Defect Allowance

SJSB to run recovery tests once the sawmill is in operation so that measurements of defects can be presented to the State Forestry Department as a basis for calculating defect allowances.

Forestry Legislation

Assistance to be sought from outside Malaysia to revise the country's obsolete forestry legislation largely responsible for these procedural problems.

Housing

It had been agreed previously that the Jengka Development Corporation would develop a township for project staff in the Jengka Triangle but nothing has been done. However, the Federal Government has now agreed that if state funds are not forthcoming from the Jengka Development Corporation it would assume responsibility for building residential quarters through the recently formed Housing Development Corporation. This undertaking requires confirmation and implementation should be followed closely. Recreational facilities are also urgently required as a means of attracting and keeping staff. Areas for football and badminton should be levelled off and additional features may be added later.

Financial Position and Prospects

From the attached statements you will see that SJSB's financial position and prospects appear reasonable. Profits and cash generation build up more slowly than was anticipated at appraisal. This is mainly due to higher administrative costs, lower sales and selling prices and higher operating costs. It appears that the funds committed by the shareholders and the Bank loan will not cover the project requirements. We recommend further financing in the form of more equity (M$ 2.5 million) and a short term loan (M$ 3.0 million). Particular attention should be paid to the following:

- exports should be built up as quickly as possible.
- administrative and operating costs should be investigated and closely controlled.
- current assets should be controlled.
- projected income statements and cash flows, etc., should be prepared six-monthly, having first agreed timber

availability, production capacity, prices and sales mix with the forestry, production and marketing departments.

- inventory situation reports and receivables and payables aging lists should be prepared monthly.

Other Matters

The mission also recommends that the following action be taken on these matters:

(a) Inventory and Forest Management - The Planning Forester should, as soon as possible, complete the merchantability inventory in the remaining areas of the Jengka Triangle and in those parts of the Berkelah, Tekam and Tekai Forest Reserves that fall within the agreed project area to enable:

- the Forestry Division to update and, if necessary, revise its forward logging and road construction plans;

- the Marketing Division to prepare a sales program based on a more accurate assessment of the volumes (by species and quality) likely to become available in the future;

- SJSB to define the boundaries of the 300,000 acres of productive forest guaranteed to the project within the agreed area of some 630,000 acres, so that the balance can be handed back to the State;

- a sustained yield forest management plan to be prepared for that portion of the guaranteed area of productive forest which is not going to be cleared for land settlement.

(b) Water Supplies - Action is needed to supply water to the project area without further delay and another assessment should be made to ensure availability matches future needs.

(c) Markets - Although the long term market prospects for Malaysia's logs and timber remain good, the presently depressed Japanese log market is causing concern. Improvement is not expected until the fall. There is need for market promotion and early diversification into secondary and tertiary products such as furniture component parts and pre-fabricated houses, to increase the financial return and improve the cash flow. Possibilities of converting locally purchased timber to export quality also needs to be investigated. The East Asiatic Company should be asked to supply the services of a timber marketing specialist for about two months to assist with market research and development, and SJSB should fully support the East Asiatic Company's proposal to organize a Timber Symposium at Kuala Lumpur in August.

(d) Organization and Management - Organization and management could be improved by:

- reactivating the management committee;
- relocating headquarters to Kuantan (until housing is ready in the project area) close to the Jengka Triangle and State authorities;
- allowing Cantrans (Messrs. Pyper, Welsh and Wilfert) to move gradually from an operational to a consultancy role as the General Manager and SJSB management team assume greater responsibility for the project's activities.

Training

On-the-job training for logging, road construction and sawmilling personnel at the operators' level has proceeded fairly well but little progress has been made with the foreman, middle and upper level management training programs. SJSB should intensify its search for suitable management staff and gear its training program so that local staff are adequately trained to take over before the departure of individual members of the Cantrans/Dencan team.

Liaison with FLDA

Liaison with the Federal Land Development Authority is required on the following matters:

- cost sharing for the Class I and II roads that are required by both projects;
- a joint FLDA/SJSB approach to the Railways Administration for containerized transportation facilities of both projects' finished products (rubber, oil palm, sawn timber, plywood, etc.) from the Jengka Triangle to Port Swettenham;
- revision of the order in which future scheme areas are felled to enable more economical logging; and
- establishment of facilities in the regional center.

Future Developments

The status of plans for establishing a component part factory, pre-fabricated housing plant, particle board plant, cabinet factory and veneer slicing section should be reviewed and a new timetable drawn up for discussion with members of the next review mission in November 1971.

Reports

The attached revised format for the monthly progress report is suggested to ensure comments are made on all important issues.

ANNEX 1

MALAYSIA

LOAN 673-MA - JENGKA FORESTRY PROJECT

PLACES VISITED AND OFFICIALS MET

1. The mission visited Malaysia from May 9 - 22; the Jengka Triangle on May 15, 16 and 19, and Kuantan on May 17 and 18.

2. Senior officials met included:

Federal Government

R. Hon. Abdul Ghaffar b. Baba	:	Minister of National and Rural Development
Enche Ishak bin Tadin	:	Chief Executive Director, MARA and Chairman SJSB Management Committee
Enche Abdullah bin Ayub	:	Deputy Secretary, Treasury
Inche Badruldin Samad	:	Secretary, Treasury
Inche Jahaya Mat	:	Principal Assistant, Treasury
Inche Kamarudin Abdul Kadir	:	Ministry of National and Rural Development
Inche Karim Mansor	:	Ministry of Agriculture and Lands
Mr. Thong Yaw Hong	:	Director General, E.P.U.
Inche Sulaiman bin Abdullah	:	Director of Projects, E.P.U.
Enche Ismail bin Abdullah	:	Director General of Forestry

State Government of Pahang

YBM Dato Tunku Shahriman bin Tunku Sulaiman	:	State Secretary Pahang, Kwantan
Inche Mohd. Tarmizi bin Tahir	:	General Manager, Jengka Development Corporation
Inche Mohd. Darus bin Hj. Mohamad	:	State Forest Officer, Kwantan

SJSB

Inche Mohd. Basli b. Mohd. Nawi	:	Managing Director, SJSB
Mr. F.W. Fearman	:	General Manager, SJSB
Inche Muhd. Yusuff bin Muhd. Yumus	:	Deputy General Manager, SJSB

Cantrans

Mr. I.G. Pyper	:	Managing Director
Mr. M.J. Welsh	:	Director of Forestry
Mr. F.A. Wilfert	:	Director of Processing

Auditors

Mr. P. C. Geh	:	Peat, Marwick & Mitchell

ANNEX 2

MALAYSIA

JENGKA FORESTRY PROJECT - LOAN 673-MA

ACTUAL AND ANTICIPATED LOG PRODUCTION AND DISTRIBUTION

Fiscal Year	Project Sawmill	Project Plywood Mill	Log Export	Domestic Log Sales	Total Production	Average Daily Production (25 days/month)
	(Forest Tons of 50 cu ft)					
October				13,100	12,500	500
November				13,600	12,500	500
December				12,000	9,200	370
January				2,200	2,200	90
February				4,400	4,100	160
March				3,900	9,300	370
April			3,700	6,200	9,900	400
May			1,900	9,000	10,900	440
June	300		3,700	9,000	13,000	520
July	500		6,400	10,000	16,900	680
August	800		7,100	9,900	17,800	710
September	1,200		7,200	9,400	17,800	710
1970/71	2,800 1/		30,000	102,700	136,100 7/	
1971/72	56,500 2/	19,700 4/	35,000 6/	88,800	200,000	
1972/73	72,300 3/	38,500 5/	30,000 6/	59,200	200,000	

1/ Includes inventory of 500 tons
2/ " " " 5,000 tons
3/ " " " 6,000 tons
4/ " " " 700 tons
5/ " " " 1,000 tons
6/ Includes estimated increases of 3,000 and 6,000 tons respectively over the figures supplied to the November '70 Supervision Mission
7/ Includes an inventory of 600 tons of unsold logs

June 17, 1971

MALAYSIA

JENGKA FORESTRY PROJECT - LOAN 673-MA

COMPARISON OF ACTUAL WITH PROJECTED SPECIES DISTRIBUTION, 1970-71

		SPECIES GROUP[1]								
		1	2	3	4	5	6	7	8	9
1970	October	25.8	10.7	30.9	2.4	14.1	7.9	2.5	5.3	0.4
	November	32.3	9.3	29.2	0.5	8.7	8.5	2.5	8.1	0.9
	December	24.1	6.8	24.6	3.3	24.7	4.8	2.3	8.7	0.7
1971	January	25	8	31	-	23	3	3	7	-
	February	35.9	8.4	30.4	2.8	6.9	3.3	3.0	8.9	0.4
	March	36.2	7.0	27.5	2.3	8.8	7.3	3.7	6.1	1.0
	April	31.3	10.5	29.6	2.6	10.2	8.7	3.0	3.6	0.5
Average for 7 month period [2]		30.0	8.7	29.0	2.3	13.8	6.2	2.9	6.8	0.7
November 1970 Projections		35	7	27	3	13	6	3	4	2
Distribution according to cruise of Scheme 12		29.5	14.8	17.9	2.4	20.5	3.2	2.7	7.4	1.6

1/ Details of species within each group are shown in Annex 3 of the November 1970 Supervision Mission Report.

2/ These figures are mainly related to the production from Scheme 11.

June 8, 1971

ANNEX 3

MALAYSIA

JENGKA FORESTRY PROJECT - LOAN 673-MA

COMPARISON OF ACTUAL WITH PROJECTED LOG PRODUCTION BY MERCHANTABILITY CLASSES 1/ 1971-71

		Merchantability Classes % of Volume		
		Grade A	Grade B	Grade C
1970	October	52.8	42.1	5.1
	November	49.5	45.5	5.0
	December	44.7	51.2	4.1
1971	January	44.2	51.1	4.7
	February	41.7	52.4	5.9
	March	45.8	49.4	4.8
Average for 6 month period		46.5	48.6	4.9
November 1970 Projection		75	20	5

1/ Until May 1971 logs were divided into three grades based on length, diameter and quality. Now two grades are recognized (Annex 16) based on top-end diameter and quality.

June 10, 1971

MALAYSIA

JENGKA FORESTRY PROJECT - LOAN 673-MA

ACTUAL AND ESTIMATED PROJECT COSTS

M$'000

	Actual to 30/9/70	1971	1972	1973	1974	1975	TOTAL
FORESTRY							
Logging Equipment	4,835	1,159	-				5,994
Load Equipment	68	1,655	-				1,723
Camp Equipment	427	351	114				892
Buildings	330	589	-				919
TOTAL	5,660	3,754	114				9,528
PROCESSING							
Sawmill Equipment	2,346	1,696					4,042
Plywood Equipment	378	6,246	1,267				7,891
SUB-TOTAL	2,724	7,942	1,267				11,933
Building, Site and Engineering	516	3,785	6,057				10,358
Power Plant	245	1,505					1,750
TOTAL	3,485	13,232	7,324				24,041
ADMINISTRATION							
Leasehold Improvement etc.	13	82					95
Vehicles	56	90					146
Office Equipment	27	82					109
TOTAL	96	254					350
MANAGEMENT FEES AND EXPENSES							
Management Fee	1,856	1,950	1,232	210			5,248
Management Expenses	413	391	596	382			1,782
Dencan		131	50	50	25		256
TOTAL	2,269	2,472	1,878	642	25		7,286
TOTAL PROJECT	11,510	19,712	9,316	642	25		41,205

ANNEX 5

June 23, 1971

MALAYSIA

JENGKA FORESTRY PROJECT - LOAN 673-MA

CAPITAL COSTS
M$ '000

	Quantity	Unit Cost	Total	Spent to 3/31/71	Date of Purchase Qtr/Year	Country of Origin
FORESTRY						
Logging						
Clark skidders - 666	6	75	450)		2/70	Canada
- 668	4	104	415)		3/70	Canada
- 668	4	109	437)		2/71	Canada
Pacific trailers	4	36	143)		4/70-1/71	Canada
" trucks	4	210	841)		4/70-1/71	Canada
" trailers (90 tons)	1	73	73)		4/70	Canada
Caterpillar - D7E (used)	1	119	118)		2/70	U.S.A.
D6C	5	130	652)		2/70	U.S.A.
D7E	1	169	169)		1/70	U.S.A.
966e loader	2	144	287)		1/70	U.S.A.
bucket & grapple		30	30)		3/70	U.S.A.
988 loader	1	268	267)		3/70-1/71	U.S.A.
980 loader	3	291	574)		2/71	U.S.A.
D7F	2	183	367)			U.S.A.
- chargers on above			167			
Logging Trucks - balance			143		2/71	Canada
Landing lighting			15		4/70	Local
Power saws			24		70	Local
Tires			23		4/70	Local
			5,195	3,670		
Road Construction						
Compaction roller	1	17	17		3/70	U.S.A.
Pull Scraper	1	10	10		3/70	U.S.A.
International dump trucks	4	49	196		1/71	U.S.A.
International dump trucks	4	51	205		2/71	France
Poclain excarator	1	156	156		3/70	U.S.A.
Caterpillar - D7E	1	169	169		4/69	U.S.A.
14E grader	1	115	115		2/70	U.S.A.
966 loader	1	129	129		1/70	U.S.A.
621J scraper	1	197	197		2/70	U.S.A.
621J scraper	1	278	278		1/70	U.S.A.
D7F	1	118	118		4/69	U.S.A.
D9G	1	356	356		3/70	U.S.A.
D8H	1	323	323		4/69	U.S.A.
Stone crusher		52	52		2/70	Local
Rock drill equipment			100		4/70	Local
Crusher plant			100		4/70	Local
			2,521	2,217		

	Quantity	Unit Cost	Total	Spent to 3/31/71	Date of Purchase Qtr/Year	Country of Origin
Camp Equipment						
Sunday Vehicles			114			Local
Transport trucks	2		33		1/70	Local
Bedford fuel truck & trailer	1		13		3/70	Local
Bedford service truck	1		10		3/70	Local
Other trucks	3		53		1/70	Local
Land Rovers	7		92		1/70	Local
Automobiles	2		23		70	Local
Motorcycles			3		1/70	Local
Combi vans	5		56		4/70	Local
Datsun pick-up	1		8			Local
Electric generators	4		20			Local
Office and shop equipment			91			Local
Radios - SSB			38			Canada
- mobile			51			Canada
Welder			8			Local
Generating equipment			10		70	Local
Steam cleaner			3			Local
Fire protection			4			Local
Water transport			25			Local
SKKKB assets			71			Local
Ford chassis	4	46	186		1/71	U.S.A.
			892	539		
Buildings						
Senior permanent camp			449		70	Local
Married quarters			10		70	Local
Kuantan yard /1			461		71	Local
			920	400		
Summary						
Logging			5,195	3,670		
Road construction			2,521	2,217		
Camp Equipment			892	539		
Buildings			920	400		
			9,528	6,826		

/1 Includes equipment.

	Total Cost	Spent to 3/31/71	Country of Origin
PROCESSING			
Manufacturing Equipment			
Sawmill			
Log splitter & deck saw	44		Canada
Rosser debarker	141		Canada
Band saws & equipment	74		Canada
Chain and steel	88		Canada
Link chain	25		Canada
Lumber drying and conditioning	659		Australia
Wadkin planer/molder	273		U.K.
Impregnation plant	126		U.K.
Log handling machine	371		Canada
Hyster trucks	615		U.S.A.
Log carriage & equipment	565		Australia
Bandmill resaw & equipment	362		Canada
Steam boiler	627		Australia
Bandmill saws	18		Canada
Hammer log	54		Canada
	4,042	3,500	
Plywood			
Veneer log barker	185		Canada
Hot presses	642		Canada
Lathe charges	235		Canada
Veneer lather	577		Japan
Roller type dryer	397		U.S.A.
Continuous dryer	420		U.S.A.
8' lathe system	480		U.S.A.
Continuous dryer system	140		U.S.A.
Deck tray system	220		U.S.A.
Core lathe system	130		U.S.A.
Roller dryer system	240		U.S.A.
Moisture detectors	80		U.S.A.
Factory carts	50		Local
Patcher	55		U.S.A.
30" veneer log	26		U.S.A.
Nylon chain & binders	4		U.S.A.
Cutting saws	141		Canada
Widebelt sander	291		U.S.A.
Glue spreader	71		U.S.A.
Pre-presses	120		Japan
Loader & unloading	165		U.S.A.
Scissor lifts	71		U.S.A.
Air compressor	70		
Wadkin molder	21		
Drive motor & reducer	97		U.K./Germany
Other foreign equipment	1,700		N.A.
Other local equipment	830		Local
Insurance & Handling	433		
	7,891	2,119	

	Total Cost	Spent to 3/31/71	Country of Origin
Buildings, Site & Engineering			
Site and preparation	1,026		Local
Building	5,686		Local
Erection & Installation	931		Local
Water supply	630		Local
Temporary townsite	330		Local
Permanent townsite	1,580		Local
Engineering	143		Local
Bachelors' quarters	32		Local
	10,358	1,380	
Power Plant			
Diesel generator	1,500		U.K.
Transformers	250		
	1,750	1,292	
TOTAL	24,041	8,291	

June 29, 1971

ANNEX 7

MALAYSIA

JENGKA FORESTRY PROJECT - LOAN 673-MA

PROJECT COSTS

M$'000

	Current			Appraisal			Difference (Current US Appraisal)		
	Foreign	Local	Total	Foreign	Local	Total	Foreign	Local	Total
Logging	6.89	2.64	9.53	6.34	1.67	8.01	+ .55	+ .97	1.52
Processing	12.11	11.89	24.00	13.52	7.35	20.87	-1.41	+4.54	3.13
Administration	-	.35	.35	-	-	-	-	.35	.35
Working Capital	-	5.71	5.71	-	3.06	3.06	-	2.65	2.65
Management Fees	6.75	.28	7.03	6.14	-	6.14	.61	.28	.89
Total	25.75	20.87	46.62	26.00	12.08	38.08	- .25	+8.79	8.54

June 23, 1971

ANNEX 8

MALAYSIA

JENGKA FORESTRY PROJECT - LOAN 673 - MA

PROJECT FINANCING

M$ million

	1970	1971	1972	1973	1974	1975
Costs						
Project costs	11.6	19.8	9.3	.7	-	-
Working capital	(2.4)	3.7	3.2	.1	-	-
Replacements	-	-	-	1.5	2.5	2.1
Road construction	-	-	-	-	-	-
Housing	.7	.3	1.7	-	-	-
Total	9.9	23.8	14.2	2.3	2.5	2.1
Financing						
MARA	8.7	1.3	-	-	-	-
Pahang state	1.8	1.2	-	-	-	-
IBRD	-	20.4	4.7	.6	(1.3)	(2.6)
Share redemption	-	-	-	-	(4.5)	-
Earnings	.4	(.8)	4.4	7.3	7.6	8.4
Total	10.9	22.1	9.1	7.9	1.8	5.8
Cash surplus (deficit)	1.0	(1.7)	(5.1)	5.6	(.7)	3.7
Cumulative	1.0	(.7)	(5.8)	(.2)	(.9)	2.8

June 25, 1971

ANNEX 9
Table 1

MALAYSIA

JENGKA FORESTRY PROJECT - LOAN 673-MA

SCHEDULE OF DISBURSEMENTS

AS OF MARCH, 1971

IBRD Fiscal Year and Quarter	ACCUMULATED DISBURSEMENTS IN THOUSANDS OF U.S. DOLLARS EQUIVALENT			New Estimate as Percentage of Appraisal Estimate
	Actual Total Disbursements 1/	Appraisal Estimate	New Disbursement Estimate	
1970/71				
1st		3,524	-	
2nd To date	4794		4800	
3rd			6400	
4th			7400	
1971/72				
1st		7,339	7450	
2nd			7900	102
3rd			8200	
4th			8300	
1972/73				
1st		8,402	8330	98
2nd			8350	
3rd			8360	
4th			8380	
1973/74				
1st		8,500	8400	99
2nd			8450	
3rd			8500	100

Closing Date: 6/30/74

June 23, 1971

MALAYSIA

JENGKA FORESTRY PROJECT - LOAN 673-MA

QUARTERLY PROJECT COSTS AND FOREIGN EXCHANGE PORTION
M$'000

Project Costs	Forestry	Processing				Management				Total
		Sawmill	Plywood	Buildings and Site	Power	Administration	Fees	Expenses	Fee (Dencan)	
1970 4th Quarter	5,660	2,346	378	516	245	96	1,856	413	-	11,510
1971 1st Quarter	938	1,696	701	-	-	254	670	130	-	4,389
2nd "	2,816	-	2,806	790	785	-	640	131	64	8,032
3rd "	-	-	2,739	2,995	720	-	640	130	67	7,291
4th "	-	-	-	-	-	-	132	149	13	294
1972 1st "	114	-	633	6,057	-	-	490	149	12	7,455
2nd "	-	-	634	-	-	-	380	149	13	1,176
3rd "	-	-	-	-	-	-	230	149	12	391
4th "	-	-	-	-	-	-	-	25	-	25
1973 1st "	-	-	-	-	-	-	173	25	12	210
2nd "	-	-	-	-	-	-	172	25	13	210
3rd "	-	-	-	-	-	-	147	25	25	197
4th "	-	-	-	-	-	-	-	-	25	25
TOTAL	9,528	4,042	7,891	10,358	1,750	350	5,530	1,500	256	41,205
Foreign Exchange										
1970 4th Quarter	4,838	2,311	373	-	246	-	1,856	413	-	10,037
1971 1st Quarter	922	1,442	281	-	732	-	620	130	-	4,127
2nd "	1,133	-	2,596	-	772	-	590	131	-	5,222
3rd "	-	-	2,382	-	-	-	590	130	-	3,102
4th "	-	-	-	-	-	-	132	149	-	
1972 1st Quarter	-	-	595	-	-	-	460	149	-	1,204
2nd "	-	-	382	-	-	-	360	149	-	891
3rd "	-	-	-	-	-	-	210	149	-	359
4th "	-	-	-	-	-	-	-	25	-	25
1973 1st "	-	-	-	-	-	-	153	25	-	178
2nd "	-	-	-	-	-	-	152	25	-	177
3rd "	-	-	-	-	-	-	127	25	-	152
4th "	-	-	-	-	-	-	-	-	-	-
Total	6,893	3,753	6,609	-	1,750	-	5,250	1,500		25,755

N.B. Management Fees include M$ 282,000 exchange control costs

June 23, 1971

ANNEX 9
Table 2

MALAYSIA

JENGKA FORESTRY PROJECT - LOAN 673-MA

PERSONNEL

SJSB

Board of Directors

Dato Mustaffa (Chairman)	Deputy Chairman, MARA
*Inche Ishak Tadin (Chairman of Executive Committee)	Chief Executive Director, MARA
*Inche Abdul Ghani	Director Finance, MARA
Inche Abdullah bin Ayub	Deputy Secretary, Treasury
*Inche Badruddin Samad	Principal Assistant Secretary, Treasury
Raja Tan Sri Mohar	Secretary General Manager of Commerce & Industry
Tan Sri Syed Jaafar Albar	
*Dato Tengku Razaleigh Hanzah	Managing Director, Bank Bumiputra
Dato Mahomad bin Jusoh	Chairman, Pahang State Development Corporation
*Inche Ismail	General Manager, Pahang State Development Corporation
*Dato Tunku Shahriman	State Secretary, Pahang
Enche Nik Badli Shah	State Financial Officer, Pahang
*Raja Mohd. Alias	Director General, FLDA

* Members of Executive Committee

June 9, 1971

Name	Contract Period of Cantrans/Dencan Staff	Post	Counterpart Staff	Date Appointed
(a) Management				
* Mohd. Rasli	-	Managing Director	-	-
F.M. Fearman	8/3/71 - 8/3/73	General Manager	Yusuff bin Muhd.	23/3/71
J.P.M. Clifford	1/10/69 - 1/10/73	Project Manager	-	-
W. Ramlow		UNIDO Management Adviser	-	-
(b) Finance				
T. Canning	1/2/70 - 1/2/73	Finance Controller	Annuarul b. Perai	1/3/71
M. Letissier	15/2/71 - 15/2/72	Cost Accountant	Shariff Musa	5/1/71
		Sawmill Cost Accountant	Jaafar Ismail	15/2/71
		Forest Cost Accountant	Sahir Senawi	1/3/71
		Plywood Cost Accountant	Hassan Said	15/7/71
D.D. Dyke 1/	1/10/69 - 1/10/72	Purchasing Representative	Rusli b. Abdullah	21/7/70
(c) Forestry				
W.J. Ellis	17/2/70 - 17/2/72	Forest Manager	-	-
R.F. Pelant	4/1/71 - 3/1/73	Planning Forester	Annuar Aziz	1/2/71
J.W. Rithaler	1/10/70 - 30/1/71	Logging Superintendent	-	-
W.T. Charke	11/170 - 11/7/72	Forest Engineer	Annuar Razak	1/5/71
J.P. Lewis	27/12/70 - 27/2/72	Road Construction Superintendent	-	-
R.B. Buster	16/9/70 - 31/3/72	Mechanical Superintendent	-	-
R.M. Park	21/10/70 - 21/4/72	Logging Foreman	-	-
R.A.F. Schmidt	7/12/70 - 7/5/72	Logging Foreman	-	-
G.K. Smith	10/6/71 - 30/3/72	Logging Foreman (Training)	-	-
		Local Staff foremen - 16		

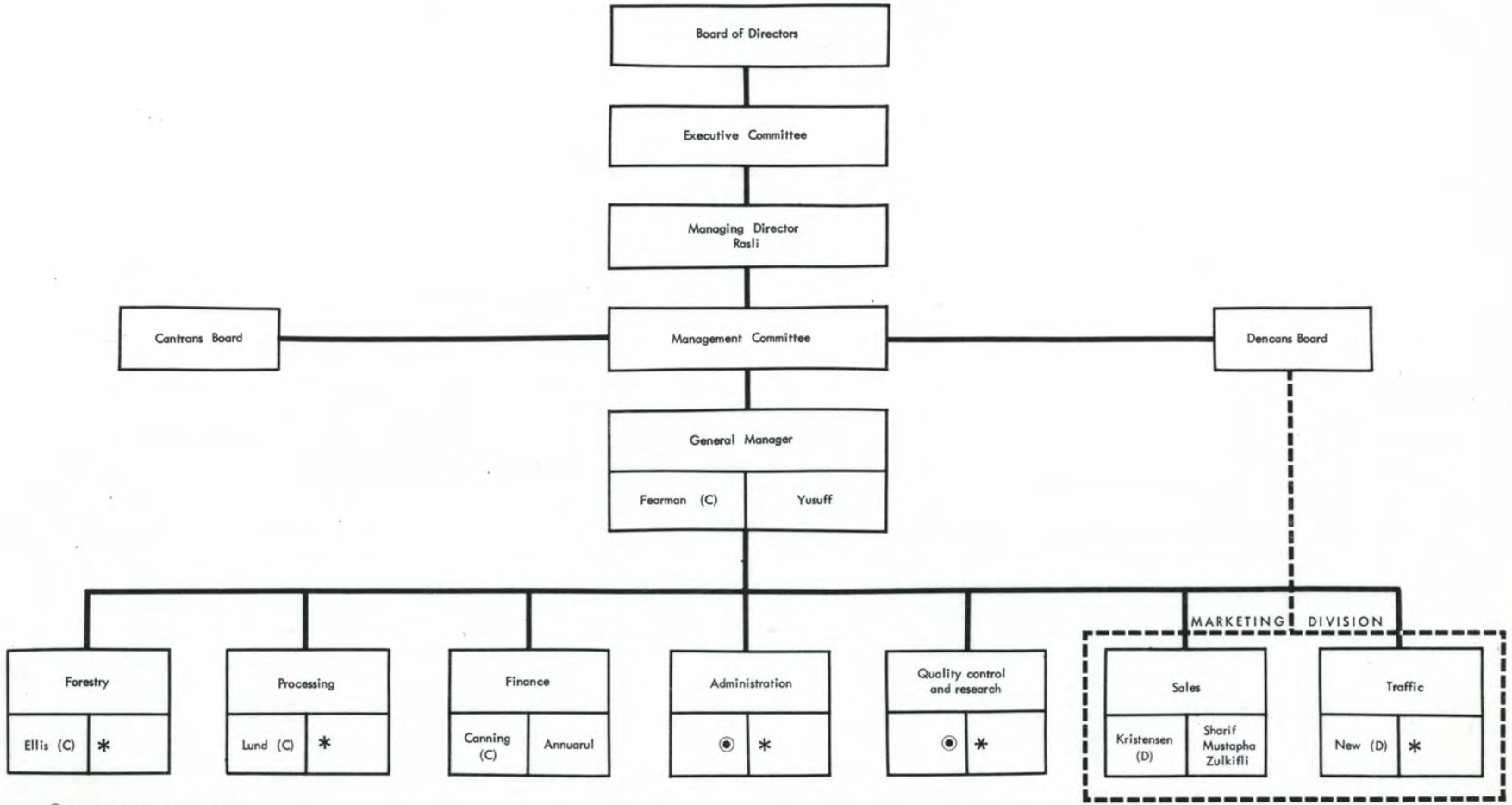
* Members of Executive Committee
1/ Resident in Vancouver, BC

Name	Contract Period of Cantrans/Dencan Staff	Post	Counterpart Staff	Date Appointed
(d) Processing				
(i) General				
Flemming Lund	18/12/70 - 15/10/73	Project Engineer	-	-
J. Meyers	6/8/70 - 1/10/73	Installation Supervisor	-	-
R.A. Thommasen	20/3/71 - 19/3/72	Mechanical Engineer	Abdul Rakmin Ahmad 2/	15/5/71
P. Bergstrom	17/1/71 - 16/1/72	Electrical Engineer	Abdul Manaf Rahman 2/	15/5/71
-	-	Steam Plant Superintendent	A.S. Xavier	16/4/71
(ii) Timber Processing				
J.T. Lapsley	16/4/71 - 15/4/73	Production Superintendent	-	-
E.M. Kellerman	5/2/71 - 4/2/72	Production Foreman	Abang Mohd. Ibrahim 2/	6/3/71
A. Halliday	6/8/71 - 5/8/72	Foreman Dry Kiln	Ahmad b. Rian 2/	15/5/71
		Planer-Moulder	Razak b. Othnian 2/	15/6/71
Ed Bartrim	26/10/70 - 25/10/71	Saw Doctor	Zainudin b. Kasar	1/6/71
(iii) Plywood Processing				
M.A. Pabia	ETA end of 1971	(Production Superintendent	-	-
		(Green End Foreman	-	-
		(Preparation and Glue Foreman	-	-
		(Finishing End Foreman	-	-
(e) Marketing				
R. Kristensen	1/1/71 - 1/1/75	Marketing Manager	-	-
J.T. New	1/2/71 - 1/8/72	Traffic Manager	-	-
N.B. Davidsen	1/1/71 - 1/1/73	Log Sales Coordinator	-	-
S. Ishojer	1/4/71 - 1/4/74	Production Sales Coordinator	-	-
E.J. Vaughan	1/2/71 - 31/1/73	Log Expert Yard Superintendent	-	-
		Local Appointments - 3		
		CANTRANS		
I.G. Pyper		Managing Director)		
W.J. Welsh		Director of Forestry)	Part time as advisers	
F.A. Wilfert		Director of Processing)		

2/ On probation

JENGKA FORESTRY PROJECT

SJSB ORGANIZATION CHART



◉ No expatriate to be appointed
* Being appointed later
C Cantrans
D Dencans

IBRD-5816

ANNEX 11

MALAYSIA

JENGKA FORESTRY PROJECT - LOAN 673 - MA

SJSB ACTUAL AND ESTIMATED INCOME STATEMENTS
M$'000

ANNEX 12
Table 1

Year Ending September 30th	1970	1971	1972	1973	1974	1975
	Actual (6 months)			Estimated		
Net Profit or Loss per Operating Statement before interest:						
Logging	(81)	(218)	385	89	89	89
Sawmill	-	(317)	2,145	2,841	2,841	2,841
Plywood	-	-	1,735	4,238	4,238	4,238
TOTAL	(81)	(535)	4,265	7,168	7,168	7,168
Interest	-	608	1,635	1,800	1,800	1,340
H.Q. Administration	450	1,236	1,666	1,414	1,260	857
TOTAL	450	1,844	3,301	3,214	3,060	2,197
Net Profit/Loss	(531)	(2,379)	964	3,954	4,108	4,971
Less Deferred Expenditure w/off:						
Roads	-	-	-	-	-	-
Management Fee and Expenses	-	-	-	703	703	703
TOTAL	-	-	-	703	703	703
Net Surplus Deficit	(531)	(2,379)	964	3,251	3,405	4,268
Summary of Depreciation and Amortization						
Logging	899	1,503	1,500	1,500	1,500	1,500
Sawmill	-	-	740	740	740	740
Plywood	-	-	1,120	1,120	1,120	1,120
H.Q.	13	41	50	50	50	50
TOTAL	912	1,544	3,410	3,410	3,410	3,410

Note: No account has been taken of interest on cash deficit.

June 21, 1971

ANNEX 12
Table 2

MALAYSIA

JENGKA FORESTRY PROJECT - LOAN 673 - MA

FORESTRY OPERATING STATEMENT

M$ '000

Year ending September 30	1970			1971			1972			1973 On		
	$		$/Ton	$		$/Ton	$		$/Ton	$		$/Ton
Income												
Sales - Local Tons		38,876			104,800	39.00		165,000	39.00		170,000	**39.00**
Export		-			30,000	86.00		35,000	88.00		30,000	91.00
Total		38,876			134,800			200,000			200,000	
Net Sales 1/	1,443		37.12	6,453		48.24	9,193		45.96	9,016		46.35
Expenditure 2/												
Direct - Falling	95		2.44			2.21			2.20			2.20
Skidding	135		3.47			7.32			7.04			7.04
Woods Scale and Load	46		1.18			1.35			1.01			1.01
Trucking	9		.23			1.10			1.15			1.15
Log Yard	-		-			1.38			1.50			1.50
Road Maintenance	11		.28			.54			.61			.61
Road Costs	105		2.70			5.50			5.00			6.00
Jengka Camp Overhead	223		5.75			4.81			3.60			4.03
Total Direct	624		16.05	3,553		24.21	4,480		22.11	4,708		23.54
Indirect - Forestry and Engineering						.72			.58			.58
Forest Premium	93					2.30			2.10			2.10
Closing Report						.27			.20			.20
Overhead	446					.84			.81			.81
Sales Log Handling						.29			.12			.12
Royalties	360		9.26			10.72			11.00			11.00
Royalty Scaling	1		.03			.09			.13			.13
						15.23			14.94			14.94
Cost of Sales Jengka	960			5,651		39.44	7,410	200,000	37.05	7,696	200,000	38.48
Export - Contract Handling						11.00		35,000	11.00		30,000	11.00
Yard Handling						3.40			4.58			4.92
Lighters						6.96			7.50			7.50
Kuantan Camp Overhead						.70			2.83			3.13
Customs Duty						8.60			8.80			9.10
Commissions						5.16			5.24			5.42
Total Cost Export Sales	-			2,404		75.26	2,695		77.00	2,386		**79.55**
Total Logging Cost of Sales	1,524			6,671		47.81	8,808	200,000	44.04	8,927	200,000	44.63
Profit Before Interest and Administration Costs				(218)			385			89		

1971 - 75 New basis of allocation

1/ Net sales are after deduction of marketing fees.

2/ Per ton charges relate to production tons.

June 22, 1971

ANNEX 12
Table 3

MALAYSIA

JENGKA FORESTRY PROJECT - LOAN 673 MA

PROCESSING OPERATING STATEMENTS

M$'000

Year Ending September 30th	1971 M$		1971 M$/Ton	1972 M$		1972 M$/Ton 1/	1973 - ON M$		1973 - ON M$/Ton 1/
SAWMILL									
Income									
Sales - Local (20%)					6,600			8,340	
Export (80%)					26,400			33,360	
TOTAL tons	-	-	-	-	33,000	-	-	41,700	
Gross Sales - Local	-	-	-	825		125.00	1,042		125.00
Export	-	-	-	6,706		254.00	8,473		254.00
Total :	-	-	-	7,531		228.21	9,515		228.18
Less: Selling Commissions, etc.	-	-	-	402		15.24	526		12.61
Exporting Costs	-	-	-	779		29.50	984		29.50
Export Cess	-	-	-	21		.80	27		.80
Total Selling Expenses	-	-	-	1,202		36.42	1,537		36.86
Net Sales	-	-	-	6,329		191.79	7,978		191.32
Expenditure - Forest Tons	-	2,800	-	-	56,500	-	-	72,300	-
- Production Tons	-	1,670	-	-	33,000	-	-	41,700	-
Sawmill - Cost of Logs	109	-	39.00	2,204	-	39.00	2,820		39.00
- Labour	106	-	-	418	-	12.66	500	-	11.99
- Maintenance and Supplies	132	-	-	71	-	2.15	78	-	1.87
- Power	99	-	-	165	-	5.00	180	-	4.31
- Overhead	13	-	-	160	-	4.85	160	-	3.80
TOTAL	350	-	-	814	-	24.66	918	-	21.97
Dry Kiln - Tons	-	-	-	-	33,000	-	-	41,700	-
- Labour	-	-	-	176	-	5.36	212	-	5.08
- Maintenance and Supplies	-	-	-	39	-	1.17	42	-	1.00
- Power	-	-	-	40	-	1.20	40	-	.95
TOTAL	-	-	-	255	-	7.73	294	-	7.03
Planer Mill - Tons	-	-	-	-	27,500	-	-	32,500	-
- Labour	-	-	-	165	-	6.01	195	-	6.00
- Maintenance and Supplies	-	-	-	70	-	2.54	76	-	2.34
- Power	-	-	-	44	-	1.60	44	-	1.35
TOTAL	-	-	-	279	-	10.15	315	-	9.69
Impregnation - Tons	-	-	-	-	9,200	-	-	9,200	-
- Labour	-	-	-	45	-	4.89	45	-	4.89
- Maintenance and Supplies	-	-	-	51	-	5.54	51	-	5.54
- Power	-	-	-	11	-	1.19	11	-	1.19
Total	-	-	-	107	-	11.62	107	-	11.62
TOTAL COSTS	459	-	-	3,659	-	110.88	4,454	-	109.40
Inventory adjustments	142	-	-	215	-	-	57	-	-
Cost of Sales	317	-	-	3,444	-	-	4,397	-	-
Net profit before depreciation	(317)	-	-	2,885	-	-	3,581	-	-
Depreciation	-	-	-	740	-	-	740	-	-
Net profit after depreciation	(317)	-	-	2,145	-	-	2,841	-	-

1/ M$ costs/ton relate to production tons. Total cost/ton relates to sales tons.

June 23, 1971

MALAYSIA

JENGKA FORESTRY PROJECT - LOAN 673 MA

PROCESSING OPERATING STATEMENTS

M$'000

	1972			1973 - ON		
	$	Sq.ft millions	$/M sq.ft. 1/	$	Sq.ft millions	$/M sq.ft.
PLYWOOD						
Sales - Local		8,920			11,840	
- Export		25,880			47,360	
TOTAL		34,800			59,200	
Gross sales - Local	1,523			2,226		188.00
Export	5,124		198.00	9,377		198.00
TOTAL	6,647		191.01	11,603		195.99
Less: Selling Commission	321		9.52	580		9.80
Exporting Costs	336		13.00	616		13.00
Total Selling Expenses	657		18.87	1,196		20.20
Net Sales	5,990		172.13	10,407		175.79
Expenditure - Forest Ton		19,700			38,500	
Production m. sq. ft.		36,000			60,000	
Cost of logs	770		39.00 1/	1,502		39.00 1/
Labor	1,312		36.44	1,854		30.90
Maintenance and supplies	810		22.50	1,299		21.65
Power	231		6.41	288		4.80
Overhead	120		3.33	170		2.83
TOTAL COST	3,243		68.68	5,113		86.16
Opening Inventory - tons					1,200	90.03
- value				108		
Closing Inventory - tons		1,200			2,000	86.16
- value	108		90.03	172		
Cost of Plywood Sold	3,135		90.03	5,049		86.22
Net Profit/Loss before depreciation	2,855			5,358		
Depreciation	1,120			1,120		
Net Profit before interest	1,735			4,238		

1/ Cost/Forest ton

June 22, 1971

ANNEX 12
Table 5

MALAYSIA

JENGKA FORESTRY PROJECT - LOAN 673-MA

ADMINISTRATION EXPENSES

M$'000

Year ending September 30,	1970 Provisional	1971	1972	1973	1974	1975
Salaries and Bonus	184	685	937	946	1,008	819
Living Allowances	-	13	18	3	-	-
Pension and Provident Fund	13	41	47	50	52	53
Office Rent and Utilities	31	59	27	5	5	5
Office Expenses	59	57	70	25	25	25
Telephones, Cables, Telex	20	52	42	32	32	32
Copying	12	29	30	30	30	30
Local Travel	32	132	85	43	43	40
International Travel	7	4	10	20	30	30
Postage and General	10	106	70	79	70	71
Advertising	11	20	10	5	5	5
Legal	19	38	20	15	15	10
Audit	-	7	10	15	15	15
Secretarial	11	7	7	4	4	2
Directors' Fees	2	11	10	10	10	10
Training Expenses	6	74	50			
Registration Fees	10	3	4	4	4	4
Payroll Tax	2	11	-	-	-	-
Income Tax	8	60	491	422	206	-
Depreciation	13	41	50	50	50	50
SUB-TOTAL	450	1,450	1,988	1,758	1,604	1,201
Less 5% Marketing Provision		214	322	344	344	344
TOTAL	450	1,236	1,666	1,414	1,260	857

June 21, 1971

MALAYSIA

JENGKA FORESTRY PROJECT LOAN 673-MA

ACTUAL AND ESTIMATED SOURCES AND APPLICATIONS OF FUNDS

M$'000

	1970	1971	1972	1973	1974	1975
SOURCES						
Net Surplus	(531)	(2,379)	964	3,251	3,405	4,268
Add: Expenditure Written off	-	-	-	703	703	703
Depreciation	912	1,544	3,410	3,410	3,410	3,410
Cash Income	381	(835)	4,374	7,364	7,518	8,381
EQUITY						
MARA	6,000	4,000	-	-	-	-
Pahang State	1,800	1,200	-	-	-	-
TOTAL	7,800	5,200	-	-	-	-
LOAN						
MARA	2,700	(2,700)	-	-	-	-
I.B.R.D.	-	20,430	4,732	592	-	-
TOTAL SOURCES	10,881	22,095	9,106	7,956	7,518	8,381
APPLICATIONS						
Building & Equipment - Forestry	5,660	3,754	114	-	-	-
Processing	3,485	13,232	7,324	-	-	-
Administration	96	254	-	-	-	-
	9,241	17,240	7,438	-	-	-
Road Construction and Housing	714	357	1,723	-	-	-
Management Fees and Expenses	2,269	2,472	1,878	642	25	-
Total	12,224	20,069	11,039	642	25	-
Replacements				1,530	2,490	2,050
Redemption of Shares					4,500	
Debt Source						
Amortization IBRD Loan	-	-	-	-	1,240	2,620
Increase in Inventories	137	863	1,482	268	-	-
Increase in Receiveables	1,131	879	2,220	225	-	-
Less Increase in Payables	(3,625)	2,020	(500)	(395)	-	-
Net Increase (Decrease)	(2,357)	3,762	3,202	98	-	-
TOTAL APPLICATIONS	9,867	23,831	14,241	2,270	8,255	4,670
Cash Surplus (Deficit) - Annual	1,014	(1,736)	(5,135)	5,686	(737)	3,711
Cumulative	1,014	(722)	(5,857)	(171)	(908)	2,803
Debt Service	-	-	-	-	-	3,960
Cash Income						8,381
Debt Service Coverage						2.0 Times

N.B. No account has been taken of the proposed new funding.

June 22, 1971

ANNEX 13

MALAYSIA

JENGKA FORESTRY PROJECT LOAN 673-MA

ACTUAL AND ESTIMATED BALANCE SHEETS

M$'000

	1970	1971	1972	1973	1974	1975
LIABILITIES						
Share capital - MARA	6,000	10,000	10,000	10,000	10,000	10,000
Pahang State	1,800	3,000	3,000	3,000	3,000	3,000
Pahang Devp. Corpn.						
TOTAL	7,800	13,000	13,000	13,000	13,000	13,000
Surplus Deficit	(531)	(2,910)	(1,946)	1,305	4,710	8,978
TOTAL EQUITY	7,269	10,090	11,054	14,305	17,710	21,978
Advance - MARA	2,700					
Debt - IBRD Loan 673 MA	-	20,430	25,162	25,754	24,514	21,894
TOTAL LIABILITIES	9,969	30,520	36,216	40,059	42,224	43,872
ASSETS						
Fixed Assets						
Timber Rights	-	-	-	-	4,500	4,500
Housing	-	-	1,723	1,723	1,723	1,723
Forestry	5,660	9,414	9,528	10,058	10,548	10,548
Processing	3,485	16,717	24,041	25,041	27,041	29,091
Administration	96	350	350	350	350	350
	9,241	26,481	35,642	37,172	44,162	46,212
Less Depreciation	650	2,194	5,604	9,014	12,424	15,834
	8,591	24,287	30,038	28,158	31,738	30,378
Roads	714	1,071	1,071	1,071	1,071	1,071
Less Amortization	262	262	262	262	262	262
	452	809	809	809	809	809
TOTAL NET FIXED ASSETS	9,043	25,096	30,847	28,967	32,547	31,187
Current Assets						
Cash at Bank	1,014	(722)	(5,857)	(171)	(908)	2,803
Accounts Receiveable deposits and Prepayments	1,131	2,010	4,230	4,455	4,455	4,455
Inventories	137	1,000	2,482	2,750	2,750	2,750
	2,282	2,288	855	7,034	6,297	10,008
Less Current Liabilities	3,625	1,605	2,105	2,500	2,500	2,500
NET CURRENT ASSETS	(1,343)	683	(1,250)	4,534	3,797	7,508
Deferred Assets						
Management Fees and Expenses	2,269	4,741	6,619	6,558	5,880	5,177
TOTAL ASSETS	9,969	30,520	36,216	40,059	42,224	43,872

June 19, 1971

MALAYSIA

JENGKA FORESTRY PROJECT LOAN-673 - MA

INCOME STATEMENTS - VARIANCES BETWEEN NOVEMBER 1970 SUPERVISION AND CURRENT ESTIMATES

M$ '000

	1971	1972	1973	1974	1975
Net Profit (loss) before interest per last supervision	(705)	4,815	7,121	7,664	7,848
Current estimates	(1,771)	2,599	5,754	5,908	6,311
Total Variance	(1,066)	(2,216)	(1,367)	(1,756)	(1,537)
Sales					
Logging	(1,889)	(55)	(92)	(92)	(92)
Sawmill	(802)	(1,579)	(376)	(376)	(376)
Plywood	-	-	-	-	-
	(2,691)	(1,634)	(468)	(468)	(468)
Expenditure					
Logging	774	(786)	(934)	(1,482)	(1,661)
Sawmill	706	827	361	361	361
Plywood	-	(59)	73	73	73
	1,480	(18)	(500)	(1,048)	(1,227)
Administration	145	(564)	(399)	(240)	158
Total	(1,066)	(2,216)	(1,367)	(1,756)	(1,537)

June 21, 1971

ANNEX 15

MALAYSIA

JENGKA FORESTRY PROJECT - LOAN 673-MA

DOMESTIC LOG PRICE LIST [1]

FOB Mill Yard Prices in M$

Species Group		Diameter Class [2]			
		22" & Up		18-21"	
		M$/ST	M$/FT	M$/ST	M$/FT
Group 1:	M. Tembaga	(	(	(	(
	M.S. Punai	(55	(43	(45	(35
	M. Langgong	(	(	(	(
	M. Kepong	75	58	65	51
	M.R. Daun	80	62	70	55
	Nemesu	90	70	80	62
	Seraya	75	58	65	51
	Nyatoh	50	39	40	31
		24" & Up			
Group 2:	Kempas	34	27		
		22" & Up		18-21"	
Group 3:	Keruing	45	35	38	30
Group 4:	Sepetir	35	27		
Group 5:	Mengkulang	80	62	75	58
	W. Meranti	75	58	70	55
	Y. Meranti			30	23
	Durian	40	31		
	M. Melantai				
	Melawis	(	(		
	K. Semangkok	(35	(27		
	Simpoh	(	(		
	Pelong	(	(		
Group 6:	Jelutong	55	43	50	39
Group 7:	Mersawa	70	55	65	51
Group 8:	Merbau	48	37		
	Merbatu/Membatu	45	35	40	31
	Chengal	75	58	65	51
	Giam/Resak/Balau	60	47	50	39
		20-30" Inside Sap [3]			
Group 9:	Keledang	38	30		

1/ Supplied by Dencan on 15 May 1971.

2/ Based on the small end diameter of the log.

3/ Measurement of heartwood only.

June 10, 1971

MALAYSIA

JENGKA FORESTRY PROJECT - LOAN 673-MA

ANNEX 17
Table 1

PRICES

I. LOGS - M$ PER FOREST TON

(a) CALCULATION OF WEIGHTED AVERAGE DOMESTIC LOG SALE PRICE PER FOREST TON 1/

Group Number & Name	Percentage Distr. of all Production According to Cruise of Scheme 12	Prices of Log Grades I M$/ST	II M$/ST	III M$/ST	Average M$/ST	Average M$/FT 2/ (a)	1970/71 % of Production for Domestic Market (b)	(a)x(b) (c)	1971/72 % of Production for Domestic Market 3/ (d)	(a)x(d) (e)	1972/73 % of Production for Domestic Market (f)	(a)x(f) 3/ (g)
1 Meranti	29.5	66	56		62.50	48.80	29.2	14.2	29.9	14.6	29.9	14.6
2 Kempas	14.8	34			34.00	26.60	18.6	4.9	10.9	2.9	10.7	2.8
3 Keruing	17.9	45	38		43.00	33.60	10.1	3.4	24.3	8.2	25.0	8.4
4 Sepetir	2.4	35			35.00	27.30	0.3	0.1	0.4	0.1	0.7	0.2
5 Plywood	20.5	54.5	44.5		50.50	39.50	25.8	10.2	16.0	6.3	15.5	6.1
6 Jelutong	3.2	55	50	35	47.50	37.10	4.0	1.5	8.5	3.2	8.2	3.0
7 Mersawa	2.7	70	65		68.00	53.10	0.7	0.3	1.2	0.6	1.4	0.7
8 Heavy Hardwoods	7.4	52	44		49.00	38.30	9.3	3.6	8.1	3.1	7.9	3.0
9 Kele dang	1.6	38			38.00	29.70	2.0	0.6	0.7	0.2	0.7	0.2
								38.8		39.2		39.0

1/ The percentages of each species group shown in columns (a), (d) and (f) are derived by excluding the logs for the export market which is expected to be made up of the following species group: Meranti 30%, Keruing 50%, Sepetir 10% and Mersawa 10%.

2/ Average log prices are derived from SJSB Log Price List - Annex 16.

3/ Calculated on the last year's average distribution on different species.

(b) EXPORT LOG SALES PRICES

The present average fob port price for the four export log groups referred to in Note 1/ above is M$ 86/Forest ton in 1971, M$ 88/Forest ton in 1972 and M$ 91/Forest ton in 1973. This information was supplied by Dencan.4/

4/ The fob mill yard sales price for export logs and gross profit before selling commission and fee is as follows:

	1970/71	1971/72	1972/73
Volume exported (Forest tons)	30,000	35,000	30,000
	M$/FT	M$/FT	M$/FT
fob Kuantan sales price	86	88	91
less cost of handling to Kuantan, cess and export tax etc.	30.6	36.7	35.8
fob mill yard sales price	55.4	51.3	55.2
less logging operating costs	47.8	44.0	44.6
Profit before selling commission and fee	7.6	7.3	10.6

(c) LOG PRICE FOR SAWMILL AND PLYWOOD MILL

It has been assumed that the project sawmill and plywood plant will be charged the average domestic log sales price of M$ 39 per forest ton in 1971 and thereafter.

(d) COMPARISON OF PROJECTED WITH EXPECTED WEIGHTED AVERAGE (DOMESTIC AND EXPORT) LOG SALE PRICE 1970-71

	November '70 Supervision		May, 1971 Supervision	
Export volume FT	42,000		30,000	
Average Export price M$	93.50		86	
Domestic sales and logs to project mills	151,000		103,500	
Average Domestic Price M$	44		39	
Total sales FT	193,000		133,500	
Price weights	$\frac{42}{193}$ x 93.50	= 20.3	$\frac{30}{133.5}$ x 86	= 19.3
	$\frac{151}{193}$ x 44	= 34.4	$\frac{103.5}{133.5}$ x 39	= 30.2
Weighted prices		54.7		49.5

June 9, 1971

ANNEX 17
Table 2

MALAYSIA

JENGKA FORESTRY PROJECT - LOAN 673-MA

II. SAWN TIMBER - M$ PER TON OF 50 CU FT

(Calculation of weighted average sawn timber prices)

		EXPORT (80%)		DOMESTIC (20%)
	Annual Production at full capacity (tons of 50 cu ft)	M$ per 50 cu ft fob port 1/	'000 (a) x (b)	M$ per 50 cu ft fob mill yard
	(a)	(b)	(c)	(d)
Rough sawn and pre-kiln dried 2/	41700	180	7506	110
Kiln dried 3/	16670	60	1000	60
Impregnated 4/	9200	40	368	-
Planing S2S/S4S 5/	12000	40	480	-
mouldings 6/	12500	100	1250	-
			10604	
Weighted average sales price		254 7/		125 8/

1/ These figures were derived from information supplied by East Asiatic Company and the Cantrans staff.

2/ Assumes all sawn timber will be pre-kiln dried to a moisture content of about 18%.

3/ Assumes kiln dried to a moisture content of about 12%. Thus rough sawn, kiln dried timber would sell at 180 + 60 = M$ 240 per ton. (Export Price).

4/ Rough sawn, pre-kiln dried and impregnated timber would sell at 180 + 40 = M$ 220/ton.

5/ Planed, kiln dried timber would sell at 180 + 60 + 40 = M$ 280/ton.

6/ Kiln dried mouldings would sell at 180 + 60 + 100 = M$ 340/ton

7/ Weighted average export sales price = $\frac{10604000}{41700}$ = M$ 254/ton fob Port.

8/ Weighted average local sales price assumes sales 75% pre-kiln dried and 25% kiln dried = M$125/ton.

June 19, 1971

ANNEX 17
Table 3

MALAYSIA

JENGKA FORESTRY PROJECT - LOAN 673-MA

III. PLYWOOD - M$ PER 1000 SQ FT

Ply	Thickness mm	Thickness inches	AVERAGE PRICES FOB PORT SWETTENHAM 1/ Water and Boil Proof 2/ WHITE Quoted price less 25% discount	WHITE ¼ inch basis	RED Quoted price less 25% discount	RED ¼ inch basis	AVERAGE EAST ASIATIC COMPANY PRICES FOB Port Swettenham Water & Boil Proof ¼ inch basis	DERIVED AVERAGE PRICE Export (80%) fob Port Swettenham ¼ inch basis	DERIVED AVERAGE PRICE Domestic (20%) fob mill yard ¼ inch basis
			M$ per 1000 sq ft						
3	4	5/32	165	250	180	270	250		
	5	3/16					225		
	6	1/4	195	195	210	210	200	198 3/	188 4/
5	9	3/8	300	200	315	210	200		
	12	1/2	345	170	360	180	175		
7	8	11/16	510	170	525	175	170		
9	25	1"	705	170	720	170	170		

1/ These prices obtained from the Plywood Manufacturers Association and the Malaysian Plywood and Veneer Factory Sdn.Bhd. have not changed significantly since November 1970.

2/ The mills total production is expected to be water and boil proff (i.e. made with phenol formaldehyde instead of urea formaldehyde glues).

3/ The mills will produce a full range of plywood from 4 mm to 25 mm in thickness but the bulk is likely to be 5 mm, 6 mm and 12 mm in an assumed ratio of 3:3:4 giving a weighted average price before service commission and fees of about M$ 198/1000 sq ft (1/4 inch basis) fob Port Swettenham. Less transport and other charges of M$ 13/t. This comes to an ex-factory price of M$ 185/1000 sq ft (1/4" basis).

4/ Derived by subtracting transport costs of M$ 10 from the fob sales price of M$ 198/1000 sq ft (1/4" basis).

June 9, 1970

MALAYSIA

JENGKA FORESTRY PROJECT - LOAN 673 MA

ECONOMIC AND FINANCIAL RATE OF RETURN

	Year	Project Costs and Replacements	Working Capital	Total	Cash Income 1/	Net Cash to SJSB	Royalties	Taxes and Custom Duties etc.	Net Cash to Economy
1970	0	12,224	(2,357)	9,867	381	(9,486)	453	149	(8,884)
1971	1	20,069	3,731	23,800	(227)	(24,027)	1,886	640	(21,501)
1972	2	11,039	2,401	13,440	6,009	(7,431)	2,620	973	(3,838)
1973	3	2,172	180	2,352	9,164	6,812	2,620	902	10,334
1974	4	2,515	-	2,515	9,008	6,493	2,620	5,177	14,290
1975	5	2,050	-	2,050	9,721	7,671	2,620	353	10,644
1976	6	3,333	-	3,333	9,721	6,388	2,620	353	9,361
1977	7	2,278	-	2,278	9,721	7,443	2,620	353	10,416
1978	8	1,621	-	1,621	9,721	8,100	2,620	353	11,073
1979	9	3,211	-	3,211	9,721	6,510	2,620	353	9,483
1980	10	(2,435)	-	(2,435)	9,721	12,156	2,620	353	15,129
						Return:			Return:
						7%			20%

1/ Before interest

June 21, 1971

ANNEX 18

MALAYSIA

JENGKA FORESTRY PROJECT - LOAN 673-MA

REVISED FORMAT FOR MONTHLY PROGRESS REPORTS

SUMMARY

ADMINISTRATION AND FINANCE

Monthly

Receivables - including aging list and comments.
Inventories - levels as a % of sales.
Payables - aging list identifying those which can be stretched.
Cash Position
Monthly Results

6 Monthly

Yearly projected Profit and Loss accounts.
Identifying variances and commenting upon.
Projected cash flow.
Projected balance sheets.
Project cost statement.
Identifying foreign and local currencies.

FORESTRY

Progress on:

Mapping
Cruising
Road Location
Forest Management Plan (for Berkelah, Tekam, Tekai)
Kuantan Log Yard
Road Construction (including cost sharing with FLDA)
State Forestry procedures

Production

Unsold Log Inventory

PROCESSING

Progress on establishment of:

Sawmill
Planer mill
Kiln
Preservation Plant
Moulding mill
Prefabricated homes

Plywood Plant

Production

Unsold Sawntimber and Plywood Inventory

MARKETING

Domestic Sales (Logs/Sawn Timber/Plywood)
Prices
Average species and grade distribution

Export Sales (as for domestic)

Market Survey and price forecast (with back up evidence)

TRANSPORTATION

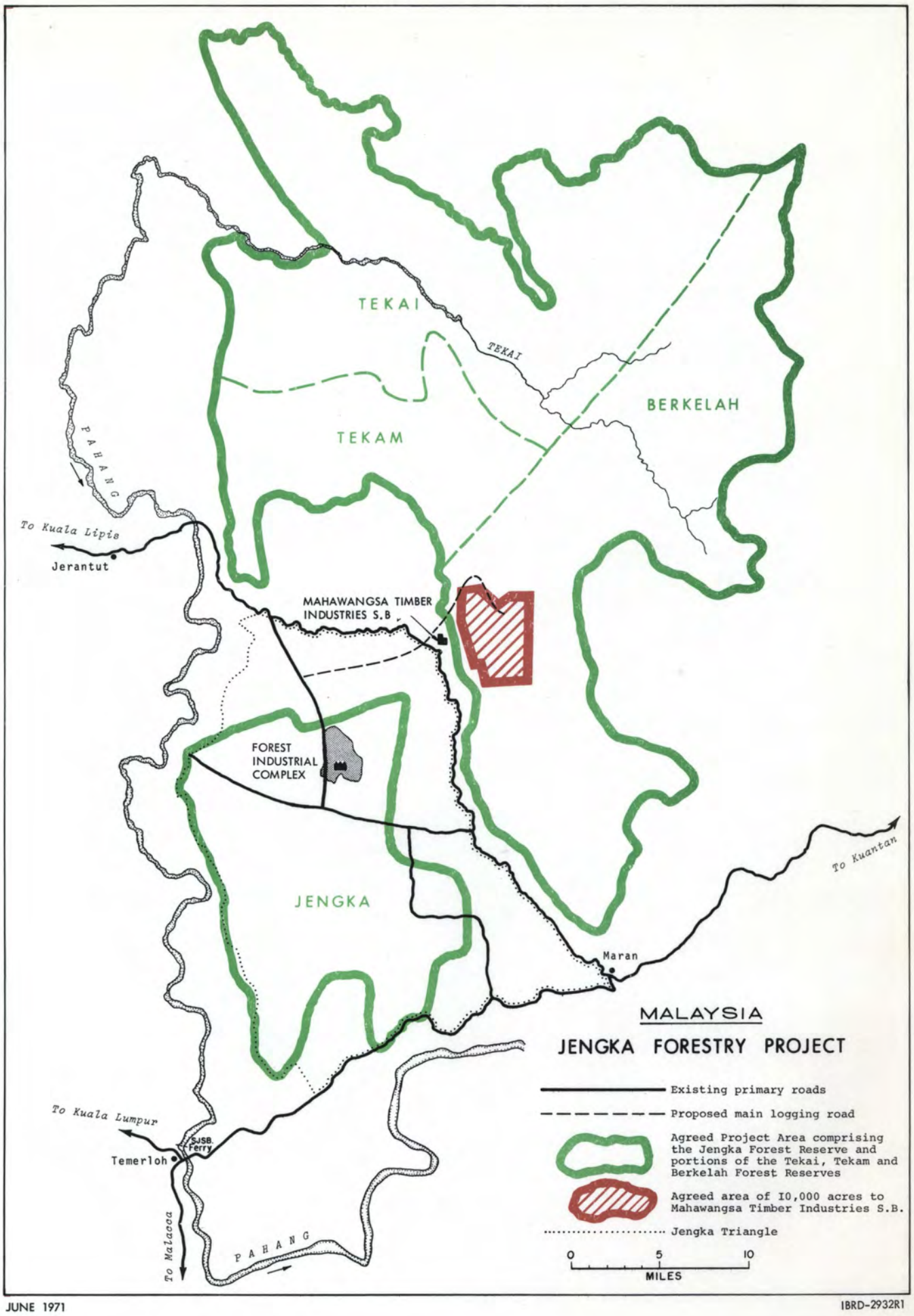
HOUSING AND SERVICES

TRAINING

Local
Overseas

MISCELLANEOUS

June 29, 1971



JUNE 1971

IBRD-2932R1

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

INTERNATIONAL DEVELOPMENT ASSOCIATION

OFFICE MEMORANDUM

TO: Mr. D. J. Parsons DATE: June 28, 1971

FROM: R. D. H. Rowe, D. Lomax and L. Ljungman

SUBJECT: MALAYSIA - Loan 673-MA
Jengka Forestry Project
Full Supervision Report

In accordance with our terms of reference dated April 7, 1971 we visited Malaysia from May 9-25 reviewing progress on the Jengka Forestry Project. A list of places visited and officials met is at Annex 1.

Project Data

1.01	Amount of Loan	:	US$8.5 million
	Amount Disbursed (as of May 1971)	:	US$4.8 million
	Date of Loan Agreement	:	May 20, 1970
	Effective Date	:	October 14, 1970
	Closing Date	:	June 30, 1974
	Date of Last Supervision Mission	:	November 1970
	Current Exchange Rate	:	US$1 = M$ 3.06

1.02 The project is the establishment of a forest industries complex in the Jengka Triangle to extract, process and market timber from the Triangle and the Tekam, Tekai and Berkelah Forest Reserves. It includes:

- a mechanized logging unit with an annual extractive capacity of 200,000 tons of logs;
- a sawmill with an annual capacity of about 42,000 tons of sawn timber and ancillary drying kilns, planer mill, moulding plant and impregnation plant;
- a plywood mill with an annual capacity of about 60 million sq ft (quarter inch basis); and
- steam generating plant, water supply and other necessary facilities and the construction of offices and semi-permanent houses.

1.03 The project is being carried out by Sharikat Jengka Sendirian (SJSB), a subsidiary of Majlis Amanah Ra'ayat (MARA), and managed by Cantrans Services (1965) Ltd. under a four-year Management Agreement. Dencan Managers (Hong Kong) Ltd. are responsible for marketing under a three and a half year agreement with SJSB.

Summary

2.01 Despite current problems the project is well conceived and is being executed soundly. Although the start up of the sawmill and plywood plant has been delayed four months by the transportation problem - now solved by the installation of a ferry close to the damaged Temerloh Bridge - physical progress is good. Field management is strong and prospects of effective overall management have improved since the appointment of the General Manager.

2.02 The financial situation of SJSB necessitates an injection of funds. Future prospects are reasonable. Due to increases in scale of logging, cost of semi-permanent housing and working capital requirements, project costs will be about 20% over the appraisal estimate. Profits will build up more slowly due to lower sales and prices together with increasing costs. The economic rate of return is now estimated at about 20% and the financial return to SJSB about 7%. Disbursements to date total US$4.8 million and 96% of the loan will have been disbursed by mid 1972.

2.03 The project's main problems are related to the depressed log market, absence of improvement in the State's cumbersome forestry procedures and the continued lack of cooperation between the State Forestry Department (SFD) and the project. Also of concern is the slowness of Government to provide residential housing and water supplies in the project area. Since the mission returned the Managing Director of SJSB has indicated that the problems over forestry procedures and cooperation with the SFD are being taken up with the Government at Federal and State level.

Action Recommended

3.01 The mission recommends that a letter and memorandum be sent to the Government (draft is attached) setting out the issues and problem areas requiring action. The most important of these are:

(a) that SJSB defines the boundaries of the 300,000 acres of productive forest within the Berkelah, Tekai and Tekam Forest Reserves and prepares a sustained yield forest management plan for the portion of productive forest which is not scheduled for land settlement (para 5.01);

(b) that the signed legal documents and map concerning the agreed concession area for Mahawangsa Timber Industries' operations are forwarded to the Bank by the end of July (para 5.02);

(c) that the SFD takes positive steps to improve cooperation with the project and that its rules and procedures will be streamlined to fit more closely with the requirements of the project's large scale integrated forestry operations (paras 5.03 and 5.04);

(d) that the Federal Government assumes responsibility for building residential quarters in the regional center for project staff and insures an adequate supply of water to the project area (paras 5.05-5.07);

(e) that Dencan initiates market promotion activities and reviews prospects of early diversification into secondary and tertiary wood products (para 5.08);

(f) that the Chief Executive Director, MARA, keeps SJSB's management and training program under constant review and initiates the immediate action recommended in paras 9.01-9.04;

(g) that SJSB seeks further financing in the form of more equity and a short-term loan to cover the cash flow deficit (para 7.02); and

(h) that SJSB keeps its operating costs, profit margins and administrative costs under constant review and control (paras 10.04-10.05).

3.02 The next supervision mission should take place in November 1971 and include a consultant sawmill/plywood plant specialist. It is also recommended that the Federal Land Development Authority (FLDA) Jengka Triangle settlement scheme be supervised at the same time so that matters of mutual concern can be discussed. These are:

- cost sharing for FLDA Class I and II roads that are required by both projects;

- joint approach to the Railways' Administration for facilities to transport finished products (rubber, palm oil, sawn timber, plywood, etc.) from the Jengka Triangle to Port Swettenham;

- revision of the order in which scheme areas are felled to enable more economical logging; and

- establishment of facilities in the regional center.

Physical Execution of the Project

4.01 Physical execution of the project has been delayed by about four months mainly due to the January floods that damaged the Temerloh Bridge and disrupted communications between Kuala Lumpur and Jengka until the end of April. A ferry installed by the project half a mile north of the bridge is now in full operation and will be able to handle all Jengka forestry traffic until reconstruction of the bridge is completed in about four years. Bailey bridges have been used to replace the sections carried away by the floods and the bridge is now open to vehicles weighing up to 18 tons. However, as timber loads frequently exceed this amount and weighing stations

have been set up at both ends of the bridge, all Jengka logging trucks crossing the Pahang River at Temerloh are encouraged to use the ferry. Mapping, inventory cruising road construction and the establishment of export facilities in Kuantan are on schedule.

4.02 Logging. The logging unit is capable of working at a full capacity of some 720 tons 1/ per day but due to the poor log market, is currently producing about 400 tons. This has made it necessary to postpone the felling of FLDA Scheme 14 to 1972. Revised details of log production and distribution are given in Annex 2.

4.03 Log sales dropped from an average of 450 tons/day in November to 70 tons in January. They picked up again in April to 300 tons and are currently running at about 350 tons daily. However, as over the past six months, log sales have lagged behind production and the total volume of unsold logs by April 30 amounted to about 6,400 tons. Some of this has been written-off and burnt; the remainder will be sold at reduced prices. This highlights one of the difficulties facing this project. Under normal circumstances SJSB would be able to slow down their felling program until the log market improved, but with FLDA pressing for scheme areas to be released for clearing, this is not possible. An interim solution suggested by the mission to hand over schemes in which all currently marketable timber had been removed and to waive royalty on the standing merchantable - but not presently marketable - trees, was not received favorably by the State authorities. It is estimated that in Scheme 12 alone royalties amounting to over M$ 160,000 will be charged on 15,000 tons of standing timber left in the forest that under present circumstances could not be sold. This matter should be taken up again by the next supervision mission.

4.04 Two other factors are compounding difficulties by depressing average log sale prices:

- a decrease in the amount of high value Meranti accompanied by an increase in the volume of low value Kempas (Annex 3); and
- a lower than expected log quality from Scheme 11 (Annex 4).

4.05 Roads. The road unit has cleared 54 miles, graded 47 miles and surfaced 16 miles of main and spur roads since start-up in 1969 and is well ahead of logging.

4.06 Negotiations to construct 40 miles of FLDA's road requirements in the Jengka Triangle on a cost-sharing basis have progressed slowly. SJSB's estimates of M$ 122,000/mi for Class I and M$ 71,000 for Class II graveled surfaced roads were submitted to FLDA and the Government's Public Works Department (JKR) and the meeting between the three authorities is scheduled

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1/ The "forest ton" used here is a unit of volume of 50 cu ft and has no relation to weight.

for June. Remuneration for this work has not been taken into account in the project's financial projections.

4.07 Survey of the 18-mile main access road from the regional center to the Berkelah Forest Reserve (see Map) will be started in July and construction begun later in the year.

4.08 Processing. The sawmill has been erected and start-up is planned for June, three months behind schedule due to the floods. Total production for fiscal 1970/71 is expected to be about 1,700 tons 1/ instead of the 4,000 tons originally planned. Production is likely to reach 33,000 tons in fiscal 1971/72 and full capacity of 41,700 tons in the following year.

4.09 Although the plywood plant is scheduled to start-up in January 1972, four months behind schedule, production in fiscal 1971/72 is expected to be 36 million sq ft (quarter inch basis) as originally planned and is likely to reach full capacity of 60 million sq ft (quarter inch basis) in the following year. Over 90% of the equipment has been ordered.

4.10 Log export facilities, to provide storage handling and loading for a maximum of 9,000 tons a month, have been established on a temporary basis in Kuantan, until the jetty is constructed at the permanent 5-acre plot purchased by SJSB. The new site should be ready for next season's log exports.

4.11 In addition to the semi-permanent housing for the forestry division labor, SJSB and Cantrans staff, similar quarters are nearly completed for the processing division's labor and operators.

Detailed Features and Problem Areas

5.01 Timber Exploitation, Inventory and Forest Management. A planning forester has been employed to undertake a merchantability inventory in the remaining areas of the Jengka Triangle and in those parts of the Berkelah, Tekai and Tekam Forest Reserves that fall within the agreed project area (see Map). This will enable:

- the Forestry Division to update and, if necessary, revise its forward logging and road construction plans;
- the Marketing Division to prepare a sales-program based on a more accurate assessment of the volumes (by species and quality) likely to become available in the future;
- SJSB to define the boundaries of the 300,000 acres of productive forest guaranteed to the project within the agreed area of some 630,000 acres so the balance can be handed back to the State; and

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1/ A sawn timber ton of 50 cu ft true measure.

- a sustained yield forest management plan to be prepared for that portion of the guaranteed area of productive forest which is not going to be cleared for land settlement.

5.02 Licensing. All parties have now agreed to the alternative location of Mahawangsa Timber Industries' concession of about 10,000 acres in the Berkelah Forest Reserve (see Map). During a meeting on May 18 with the State Secretary for Pahang, we were advised that signed legal documents and the map would be forwarded to the Bank by the end of July. A helicopter flight over the project area revealed that encroachment is not taking place elsewhere but this needs to be checked by subsequent supervision missions.

5.03 State Forestry Procedures. The SFD's cumbersome procedures and lack of cooperation continue to impair the efficiency of the project operations. A committee set up in November 1970 as a forum to discuss matters of mutual concern has not met since and procedural problems are still unsolved. These matters were discussed at Federal and State levels and the following specific action recommended:

(a) SFD to:

- reactivate the forestry committee at State level to maintain a continuing dialogue on forest rules and procedures and to resolve specific issues as they arise;

- review the rules and regulations governing annual felling licenses to eliminate the need for keeping logs from each area in separate piles, and to avoid double premium payments where fellings are delayed awaiting an improvement in the market;

- review the current practice of charging royalty on unmarketable standing trees, undersized logs and defective butt-end chunks of less than 2 ft; and

- investigate ways of streamlining its checking stations, closing report and log export procedures on the lines suggested by SJSB and the Bank.

(b) SJSB to:

- improve public relations with the State officials and inform them of the benefits, in addition to royalty, to be gained from the project;

- prepare proposals for a revision of the royalty scaling procedures to enable measurement in the log yard of the 1,000 logs per day expected at full production; and

- run recovery tests once the sawmill is in operation so that actual defect measurements can be presented to the SFD as a basis for determining defect allowances.

5.04 The Federal Government was not receptive to the suggestion that outside assistance be sought to revise the country's obsolete forestry legislation largely responsible for these procedural problems. However, the matter should continue to be raised by supervision missions.

5.05 Housing. It had been agreed previously that the Jengka Development Corporation (JDC) would develop a township for project staff but despite assurances given to the last mission nothing has been done. The Federal Government has agreed that if State funds are not forthcoming from the JDC by June it will assume responsibility for building residential quarters through the recently formed Housing Development Corporation. This understanding will have to be confirmed and implementation followed closely.

5.06 Recreational facilities are also urgently required as a means of attracting and keeping staff. It was suggested that SJSB's road construction unit could supply the equipment necessary to level off areas for football and badminton. At a later stage there may be good justification for constructing a swimming pool.

5.07 Water Supplies. Pumped water will not be available at site until the end of June, three months later than scheduled. The mission has recommended that a further assessment be made to ensure availability matches future needs.

5.08 Markets. Although the long term market prospects for Malaysia's logs and timber remain good, the presently depressed Japanese log market is causing concern. Improvement is not expected until the fall. There is need for market promotion and early diversification into secondary and tertiary wood products such as furniture component parts and pre-fabricated houses to increase the financial return and improve the cash flow. The mission's recommendation to post one of East Asiatic Company's (EAC) timber marketing specialists to Kuala Lumpur for two months, and EAC's proposal to organize a "Timber Symposium" at Kuala Lumpur in August for its timber representatives around the world, will further these objectives.

Project Costs

6.01 Annex 5 gives the latest cost estimates for the project and Annex 6 gives details of equipment and facilities. Final equipment cost are not likely to vary from the estimates. Annex 7 compares the current estimates with those in the appraisal report.

6.02 The increase of about M$ 8.5 million (20%) over the appraisal estimate is due to the following factors:

- increase in the scale of logging from 175,000 to 200,000 tons a year;

- increase of M$ 4 million in semi-permanent housing and camp facilities for forestry and processing personnel;

- management fees for additional services and the increased value of the Canadian dollar; and

- higher working capital requirements.

Project Financing

7.01 The increase in project costs coupled with the operating deficits require additional financing. Annex 8 gives details of the current project financing from which it is clear that SJSB will need to resort to some form of funding to cover the future cash deficit of M$ 5.8 million.

7.02 It is recommended that funds totalling about M$ 5.5 million be provided as follows:

Ordinary Capital	M$ 2.5 million
Short-term Loan	M$ 3.0 million
	M$ 5.5 million

Any further financing can be provided by bank overdrafts. The following tables shows the originally proposed and new recommended capital position of SJSB:

	Original	Revised
Ordinary shares	13.0	15.5
IBRD loan	26.0	26.0
Short-term loan		3.0
	39.0	44.5
Debt as % of capital	67%	65%

7.03 Under section 2.13 of the Project Agreement the Bank will be required to give prior approval to SJSB incurring this further indebtedness.

Procurement and Disbursement

8.01 Annex 9, Table 1 contains the schedule of disbursements and Annex 9, Table 2 shows estimated projections and foreign exchange expenditures by quarters. US$4.8 million (56.4%) of the loan has been disbursed. By mid 1972 96% will have been disbursed.

Organization and Management

9.01 With the appointment of Mr. F. W. Fearman as General Manager three months ago, SJSB has come into being as an operational entity and the prospects of effective management are good. However, the Malay Managing Director,

Mr. Rasli and Deputy General Manager, Mr. Yusuff, have failed to understand their new role and tend to be passive and critical. This is evidenced by their lack of performance in helping to solve the current problems of housing, forestry procedures, water supplies and training. We agreed with the Chief Executive Director of MARA, Mr. Ishak Tadin, that no drastic action with regard to personalities was warranted until the results of the following steps, which have been agreed to by Mr. Ishak Tadin, could be assessed in six months' time:

- reactivation of the management committee as a means of helping Malay management to participate and benefit from training;

- relocation of HQ to Kuantan (until housing is ready in the project area) closer to Jengka and the State authorities;

- re-assignment to other tasks of the UNIDO management adviser whose role has come to an end now that effective overseas management exists; and

- allocation of specific tasks (housing forestry, procedures, etc.) to the Malay elements of the management team.

9.02 It was also agreed with Mr. Tadin that, as the General Manager assumes greater control of SJSB the three-man Cantrans team (Pyper, Wilfert and Welsh) should move from an operational to an advisory role. This is supported by the Managing Director of Cantrans, Mr. Pyper.

9.03 SJSB's Board members and project staff are listed in Annex 10 together with the contract period for each Cantrans/Dencan staff member and dates of appointment of counterpart staff. Annex 11 shows the revised SJSB/Cantrans/Dencan organization chart.

9.04 Training. On-the-job training for logging, road construction and sawmilling personnel at the operators' level has proceeded well but little progress is being made with the foreman, middle and upper level management training programs. The mission recommended that SJSB intensifies its search for suitable management staff and gears its program so that local staff are adequately trained to take over before the departure of individual members of the Cantrans/Dencan team. Subsequent supervision missions will need to follow progress in this field and assess the prospects - presently not bright - of SJSB running the project efficiently in two and a half years' time.

SJSB's Earnings, Cost Flow and Financial Position

10.01 The financial benefits of the project to SJSB will be lower than estimated at last supervision. Revised income statements, supporting operating statements, sources and applications of funds and balance sheets for 1970 (actual) and 1971 through 1975 are shown in Annexes 12 to 14.

10.02 The difference in net profit before interest at last supervision and this is as follows:

	1971	1972	1973	1974	1975
Last Supervision	(705)	4,815	7,121	7,664	7,848
Current Estimate	(1,771)	2,599	5,754	5,908	6,311
Difference	(1,066)	(2,216)	(1,367)	(1,756)	(1,537)

10.03 Annex 15 contains a variance analysis of income and expenditure. Lower profits are due to:

- higher administration costs (expansion in staff);
- delay in revenue from sawmill due to late start up;
- softening timber market causing quantity as well as price variances in 1971 and 1972; and
- cost variances (overheads, royalties and road maintenance).

10.04 SJSB's profitability depends on many factors, above all on efficient management with constant control of costs and maximization of sales revenues. Attention has to be paid to the following:

- administrative costs need to be thoroughly examined and controlled;
- with exports yielding much higher prices they must be built up as quickly as possible;
- conversion of locally purchased timber to export quality needs to be investigated; and
- control of current assets.

10.05 SJSB did not comply with the Bank's request to have various financial information prepared (projected income statements, cash flow, etc.). It was therefore recommended that these documents be prepared for the next mission in November 1971 and thereafter at about six monthly intervals to coincide with Bank missions. Management should also prepare monthly inventory situation reports, and receivables and payables aging lists.

10.06 It is further recommended that when projected income statements are prepared that:

- timber availability be agreed for each year with forestry department;

- production capacity requirement be agreed with processing department; and

- prices and sales mix be agreed with marketing department.

The implication of these factors should be thoroughly examined by the departments concerned.

10.07 During the mission a review was made of the auditors comments. Everything is now satisfactory except that Pioneer status for tax exemption although applied for, has still to be granted.

Prices

11.01 Average domestic sale log prices have remained at about M$ 37 per forest ton considerably below the November 1970 estimates due to the depressed log market and reduction in log quality and volumes of Meranti in Scheme 11 (para 4.04). In an attempt to raise the average sale price, merchantability classes have been reduced from three to two grades on the assumption that the bulk of Grade B logs will be re-classified Grade I logs. The current domestic log sale price list is shown at Annex 16. The re-calculated weighted average domestic log sale price (Annex 17, Table 1) is M$ 39/forest ton. Log exports show a profit margin of between M$ 7 and M$ 10/forest ton whereas logs sold in the domestic market show a break even position.

11.02 No change is expected in the average sale prices of exported sawn timber and plywood (Annex 17, Tables 2 and 3), but the price of sawn timber sold in the domestic market has been reduced from M$ 170/ton to M$ 125/ton to allow for a lower than anticipated demand for timber kiln-dried to 12% moisture content.

Benefits

12.01 Annex 18 gives revised calculations of the economic and financial rates of return. The economic rate of return is now estimated at 20% and the financial return is at about 7% (appraisal 29% and 15%). The difference between the two is mainly due to the substantial royalties and premia accruing to the State Government. These calculations are based on the lower prices now obtaining and the returns would improve if prices harden.

12.02 While the project's returns will depend primarily on actual prices and quantities for sawn timber and plywood, important secondary benefits should be derived from the further expansion outlined below.

Future Development

13.01 Plans for establishing a component part factory, pre-fabricated housing plant, particle board plant, a cabinet factory and veneer slicing section are presently being studied by Cantrans. These additions which would ensure maximum utilization of the raw material would substantially

increase the project's returns. The next supervision mission should review the position and advise on the feasibility studies required and possible sources of finance.

Reports

14.01 A revised format (Annex 19) for the monthly progress report was developed by the mission and SJSB to ensure comments on all important issues.

RRowe:DLomax:LLjungman
MT/ST Agri. Projs.
IBRD
June 29, 1971

cc: Messrs. Chadenet/Baum/King/Rovani/Lee/Engelmann/Lithgow/Elliot/Perch/Evans/Wapenhans/McIvor/Adler/Darnell/Takahashi/Veraart/Forcum/Sandberg, Jentgen (Area)/Hasal/Sassoon
Central Files

July 19, 1971

Mr. Ishak Tadin
Chief Executive Director
MARA
Kuala Lumpur, Malaysia

Dear Mr. Ishak:

Messrs. Raymond Rowe, David Lomax and Leonard Ljungman have reported on their recent mission to review progress on the Jengka Forestry Project. The enclosed memorandum contains their principal findings and recommendations which we feel will be helpful to the project authorities. Also attached are four copies of the project's latest financial projections and the suggested format for future monthly progress reports.

The mission was pleased that the transportation problem had been solved satisfactorily and impressed with physical implementation in spite of delays caused by floods. Despite the current problems referred to in the attached memorandum that are cause for concern, the mission considers the project is well conceived and is being executed soundly.

We are informed by the mission that all parties have now agreed to the alternative location of Mahawangsa Timber Industries' concession of about 10,000 acres in the Berkelah Forest Reserve and hope shortly to receive from the Treasury the agreement committing the respective areas for SJSB operations and map signed by the Chief Minister for Pahang.

The mission noted that State forestry officials and SJSB continue to have difficulties in cooperating with each other and that there has been little progress in improving the rules and procedures applied by the State forestry officials to the project. There appears to have been no follow-up of the recommendation made by the Bank in December, 1970 that meetings should be held between the various agencies and authorities concerned with the project's execution to discuss and resolve problems of mutual interest. We still believe that regular meetings between State forestry officials and project management including SJSB's consultants would facilitate communications and agreement on modified rules and procedures suited to the needs of the project.

The State has also been slow in providing housing for the project staff. In this connection, it is important to follow-up the Treasury's statement that if State funds are not forthcoming from the Jengka Development Corporation the Federal Government would assume responsibility for building these quarters through the recently formed Housing Development Corporation.

Due to a softening of the Japanese log market, delays in commissioning the project's processing facilities, higher than expected administrative and production costs and an increase in project costs, there will be a cash deficit of about M$5.8 million in 1972. We would recommend that this be financed by a M$2.5 million increase in the equity capital and a M$3.0 million short-term loan. The deficit not covered by this financing and any future deficits could be met by overdrafts.

We look forward to receiving your comments on these matters and, in particular, to learning how you intend to finance the cash flow deficit. We will continue to follow the project with interest and plan to send our next supervision mission in the autumn of this year.

On these matters which concern the State Authorities, we are writing separately to the State Secretary. A copy of our letter is attached for your information.

I am sending a copy of this letter to Mr. Malik Ali Merican, Deputy Director General, The Treasury, for his information.

With best personal regards,

Yours sincerely,

Bengt G. Sandberg
East Asia and Pacific Department

Attachments

RDHRowe/BGSandberg:bjc

SHARIKAT JENGKA SENDIRIAN BERHAD
TINGKAT 5, BANGUNAN MARA, JALAN TUANKU ABDUL RAHMAN, KUALA LUMPUR. TALIPON 27180/8/9

Bil. Tuan :

Bil. Kami :

Telex : K.L. 276.
P. O. Box 381, K.L.

15th October, 1971.

Mr. Bengt G. Sandberg,
East Asia and Pacific Department,
International Bank For Reconstruction
and Development,
1818 H Street, N.W.,
Washington, D.C. 20433,
U.S.A.

Dear Mr. Sandberg,

We wish to reply to your letter of 19th July 1971 with respect to the Bank's Mission in May of this year. Our comments are as follows:

Timber Licenses

The formal agreement and map regarding the Mahawangsa Timber Industries concession of about 10,000 acres Berkelah Forest Reserve have been forwarded to the Bank.

Co-operation between Project Management And The State Forest Department

The National Action Committee (NAC) which met on 1st September 1971 has directed that the Jengka Development Corporation (JDC) will be the authority responsible for the development in the Jengka. The Prime Minister who is also Chairman of the NAC has given specific instructions to the JDC to initiate action to assist in solving Sharikat Jengka Sendirian Berhad's (SJSB) problems regarding forestry matters as well as other Jengka matters.

The newly appointed State Secretary, Pahang, Enche Abdul Aziz bin Hussain, has established a Steering Committee which will meet at least once a month and whose members are representatives of the State Government, SJSB, Forest Department and the JDC. Other members may be coopted as required. The meetings will be chaired by the State Secretary. The first meeting was held on the 28th September 1971.

Arising from the meeting on the 28th September 1971 and the meeting of the Board of the JDC earlier, two sub-committees met recently on the 4th of October 1971 to resolve the question of closing and handing over the area required by FLDA, payment of royalties on trees left standing, the system to be adopted in scaling the large

volume of logs produced by SJSB, the mixing of logs from different license areas and other matters that involve the Forest Department's procedures affecting the operations of the SJSB.

State Forest Department Procedures

Most of the matters commented upon by the Mission under this heading have been discussed at the meetings mentioned above.

Annual Felling Licences

The Steering Committee meeting of 13th October 1971 accepted the following recommendations:

(a) Logs from more than one licence may be mixed. SJSB will formally request approval from the State Forest Officer to do this.

(b) Double Premium payments have not arisen since paying twice on the Regional Centre. The Committee received a recommendation that SJSB be given more time to complete logging of the schemes. A two year extension of SJSB's Logging Programme will be recommended to FLDA.

Royalties

The extension of time recommended in paragraph (b) above would permit SJSB to hold its licences long enough to cover a broader market situation. This would result in logging closer to the requirements of the Licence and hence reducing or nullifying closing reports (Licence premium fees are paid for twelve months. Actually they frequently are required to be given up in four months.)

Royalty Scaling

The Steering Committee of 13th October 1971 accepted a recommendation that experimental scaling procedures be tried. Details are to be worked out 21st October 1971 at a sub-committee meeting.

Defect Allowance

SJSB will carry out tests as recommended. Attempts are being made to have Forestry Department officials to participate in this study.

Forestry Legislation

SJSB feels that the Treasury is the appropriate agency to initiate this action with the relevant Ministries. SJSB has made numerous approaches to Pahang State and Federal Forestry officials on all of these matters.

Housing

The Treasury has advised that the Federal Government could not offer assistance in constructing housing for SJSB in Jengka. However, discussions with the JDC have progressed considerably and the JDC has now taken steps to clear by March 1972 about 240 acres of the township area for the purpose of providing the housing. JDC is also preparing plans for the houses to be built for rental. With the recent directive from the Prime Minister to JDC, the Corporation has stepped up its activities in developing the township. Six acres of land have been cleared for the Corporation to build its offices which will provide office space for the Forest Department and other departments involved in the Jengka. Some housing will also be built for the personnel of these departments and for housing the Forest Department staff that will be working in the area.

One major problem is the question of power for the housing required by SJSB. The SJSB's own generators will not be able to spare much power to the JDC for the houses. The Corporation's negotiations with the National Electricity Board (NEB) indicate that the power from the national grid will be available in Jengka sometime in 1974. SJSB, however, will spare between 200-300 kwh to provide for the initial requirement of the housing area. It is hoped that the JDC will be able to persuade the NEB to set up a temporary station to cater for the additional power required until such time as the supply from the national grid becomes available in the Jengka Triangle.

Financial Position and Prospect

General and Administrative cost control has improved. Budgets for the next 12 months are being prepared.

Control of Current Assets to some extent is dependant on market conditions. Stores inventories are being controlled.

Surtax paid, of approximately $500,000, will be reclaimed as soon as Pioneer Status is approved. The application for Pioneer Status and all queries with respect to it have been completed. Decision is expected during November 1971.

Living Allowances paid will be refunded periodically by application to the Bank.

Project income statements, cash flow statements are being prepared monthly. During the next year this will continue to be done. Every 3 months operating profit forecasts including estimated balance sheets etc. will be prepared in conjunction with the Marketing, Forestry and Processing Divisions.

A 12 month budget will be prepared each year along with an updated 5 year projection.

Inventory reports will be initiated which will graphically show any trends deviations from standard and budgeted levels.

Aged receivable lists are prepared weekly which are necessary for proper collection and credit control.

Payables ageing lists are not prepared monthly as we feel the amount of work and time involved does not serve the purpose; however, lists will be prepared every 3 months showing those suppliers who have allowed us credit beyond the normal 30 day period.

The format of the progress report proposed by the Bank does not suit our own reporting requirements; consequently we suggest we discuss this matter during the visit of the next Mission in order to settle this to the satisfaction of both parties.

Other Matters

A. Inventory and Forest Management

Satisfactory progress is being achieved to complete the merchantability inventory in the remaining areas in the Jengka Triangle and those parts of the Berkelah, Tekam and Tekai Forest Reserve.

Forestry Division is updating and revising its forward logging and road construction programmes.

Inventory for Scheme 14 was made available to Marketing Division and that of Scheme 15 is being completed and will be passed to them for their marketing plan.

SJSB is working on and will complete within six months its survey of the future forest and will define the 300,000 acres that has been guaranteed.

A sustained yield forest plan will follow the demarkation of the 300,000 acres.

B. Water Supplies

The State Government had completed laying the water mains to the Mill areas capable of supplying 200,000 gallons a day. Two storage tanks with a total capacity of 140,000 gallons are erected and connections to the mains will be made very soon. Water from the public mains is now available for supply to the personnel resident at the camp. A decision has been made to exclude the raw water supply that was originally planned.

C. Market

Marketing Division is aware that export sales should be given top priority and that any shortcoming to the projected 80% export 20% local sales will be disastrous to the company's

cash flow. It is, however, imperative that the quality of export goods is well up to standard. At this time all the processing facilities as well as Forest Inventories are not completed so forecasts are not yet completed.

With Japanese log consumption down for the first time in 20 years and Indonesian log production still on the increase we are doubtful of any significant improvements in the log export situation over the next 12 months. With our own processing facilities coming into production, however, an increasing portion of otherwise exportable logs will be needed to feed these production lines, and during 1972 we will run into the situation that we will not have any logs available of species required by the export market.

On sawn and processed products and plywood we take a more optimistic outlook. A well manufactured, well presented commodity always has a market, and on these counts we ought to be clear ahead of the local competition. The agents, The East Asiatic Company, held a Timber Symposium in Kuala Lumpur in August 1971. Their delegates were given extensive exposure to SJSB and its capabilities.

D. Organisation and Management

Regular meetings of the Divisional Heads are being held to improve the operation of the SJSB's activities. The SJSB Board has decided not to move the Headquarters to Kuantan as proposed by the Mission but action is being taken to provide extra temporary accommodation around the present accommodation so that more staff can move to Jengka as early as possible. The consultants have established their own office and are moving their activities to their own quarters.

Training.

Appraisal of all staff will be completed and reviewed prior to 1st November 1971. This will indicate progress with respect to the take over by local staff.

Liaison with FLDA

JDC has taken steps to effect close liaison between all bodies carrying all projects in the area. Close liaison therefore, has been established between SJSB, FLDA, JDC, JKR and all other government agencies involved in the implementation of the projects in the Jengka Triangle.

SJSB has submitted its views on how the cost-sharing of the class I roads should be worked out to the JDC which has held a meeting with Treasury. We are expecting the details of the cost-sharing as approved at any time.

Negotiations have been held between FLDA and SJSB with the Railways on the proposed transportation of the Jengka

Triangle and by rail from there to Port Swettenham. The Ministry of Transport has carried out a special study on this scheme and is preparing a paper for submission to the Cabinet on the above subject.

SJSB during the year had approval from FLDA to bypass Scheme 13 due to the unsuitability of the timber species for the current market. Studies are being completed on the remaining schemes in order to negotiate a final programme with FLDA.

JDC is establishing headquarters in the Regional Centre and they have the responsibility to establish all the infrastructure requirements for the Jengka Triangle.

Future Developments

The responsibility of Cantrans is limited to the present programme. Cantrans has submitted to the Chairman of EXCO SJSB preliminary advice with respect to future developments.

We trust that these comments will give sufficient answers to your enquiries. We look to the visit of the Mission in November.

With best personal regards,

Yours sincerely,
for and on behalf of SHARIKAT JENGKA
SENDIRIAN BERHAD.

(Mohd. Rasli bin Mohd. Nawi)
Managing Director.

MRMN/FWF/pfa

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

INTERNATIONAL DEVELOPMENT ASSOCIATION

OFFICE MEMORANDUM

TO: Mr. W.A. Wapenhans DATE: April 23, 1971

FROM: L.W. Bartsch and H.T. Chang

SUBJECT: MALAYSIA - Loan 434-MA - Muda Irrigation Project Supervision Full Report

In accordance with Terms of Reference dated February 25, 1971, a supervision visit was made to the project between March 6 and March 17, 1971. A list of persons visited is given in Annex 1.

Project Data

1.1	Amount of Loan	:	US$ 45 million
	Amount Disbursed, February 28, 1971	:	US$ 29,113,320
	Amount Uncommitted, February 28, 1971	:	US$ 6,000,000
	Date of Loan Agreement	:	November 17, 1965
	Effective Date	:	February 1, 1966
	Closing Date: Original	:	June 30, 1970
	Revised	:	December 31, 1971
	Date of Last Supervision Mission	:	April 1970
	Current Exchange Rate	:	US$1.00 = M$3.06

1.2 The Muda Project is designed to provide irrigation water for growing two crops of rice per year on about 261,500 ac in the States of Kedah and Perlis in north-western Malaysia. Major project facilities consist of the Muda Dam, a concrete structure approximately 125 feet high, the Pedu Dam, a rock-filled structure approximately 215 feet high, a 5-mile long Saiong Tunnel connecting the two reservoirs, the Batang Embankment and spillway, two diversion barrages, three main canals and distribution systems, including drains and tidal gates. Since the original plan, the excavation of field channels has been added to the project. The project also includes provision for operation and maintenance equipment and other facilities, including extension services, agricultural credit, research and availability of necessary inputs.

Summary

2.1 About 95% of all project works have been completed and the reservoirs are filled. Minor works remain to be done on canals and distribution systems and some additional work is necessary to improve the operational aspects of the project. Because of delays in completion of the work, an extension in the closing time of 18 months to June 30, 1973, is advisable. Substantial

undisbursed funds would remain in the loan if the Closing Date is not extended. Even with the recommended extension of the Closing Date, approximately US$ 4.8 million would remain. The Borrower has made a number of suggestions as to how this could be disbursed. However, the most acceptable method appears to be to make additional disbursements for work which has been completed and on which disbursements of only 40 percent of the cost have been made. The surplus funds of over US$ 4 million could be distributed in this manner against Disbursement Applications Nos. 1 through 80. The total disbursement percentage against such work would then be about 50%. The mission recommends that an 18-month extension of the closing date be granted and the remainder of the loan be disbursed as outlined above.

2.2 The 1970 off-season crop of 83,000 ac was successful and the program for changing over to new seeds for the first time in 1971 is being carried out satisfactorily. A target of 130,000 ac of off-season cropping is proposed for 1971. The tractor service for the preparation of land may limit the area to be second cropped. Only two drying plants were completed before the harvest of the 1970 off-season crop. Five additional drying plants are being constructed. Drying of paddy will continue to be one of the difficult aspects of the project. The existing warehouses at the drying plants are still fully occupied by last year's crop, and means must be undertaken to clear the paddy stock from the warehouse to make room for the new crop.

2.3 In July of the past year, legislation was approved to establish an authority for the project which has broad semi-autonomous powers. Staffing of the authority remains a difficult problem because of the shortage of all professional staff in Malaysia.

Action Recommended

3.1 The Bank should write a letter to the Government advising them that the Bank would entertain a request for an extension of the Closing Date to June 30, 1973, to complete the work on the project and to provide additional minor facilities which would substantially improve the project. Further details should be requested of the Borrower to review the disbursement requirements to the Closing Date and to recompute the percentage rate of disbursement for civil works, taking into consideration any additional or new items of work which the DID expects to do. The letter should also recommend that the paddy stock be cleared promptly from the warehouses of the Farmers' Associations (FAs) drying plants and that means be undertaken to improve the procedure of weighing and sampling the paddy and the timely transportation of the paddy from the fields to drying plants. The letter should also suggest that the Government review the need and level of agricultural credit for fertilizers on the acid sulfate soils. (See Annex 2)

Physical Execution of the Work

4.1 About 95% of all project works have been completed. All work on the Pedu and Muda Dams has been completed. The reservoirs are full. Discharge from the outlet works on the Pedu Dam is eroding the right river bank below the dam and a stilling pool will have to be constructed. Also, on the right abutment abovethe dam, erosion and earth slides are developing in former borrow areas due to the effects of the rain run-off. Plans for the correction of these conditions are being prepared by the Department of Irrigation and Drainage (DID) and it appears that a weir, bridge, retaining wall and road repairs will be required to correct the river channel condition. On the right abutment above the dam, slope stabilization work will be required. The preliminary estimate of cost for this work amounts to US$ 500,000.

4.2 The distribution systems in the northern section of the project have been completed, except for some very minor works. In the southern section, a small amount of contract work on the distribution systems is still underway, but should be completed by August 1, 1971. In addition to the work initially included in the project, some improvements and corrections to the project are being proposed by the Borrower. In both canal sections there are some land areas for which low lift pumping will be required. Pump stations are being planned, five are in the northern area and thirty-three in the southern area. Contract documents are under preparation and completion of this work is expected by September 1972 at an estimated cost of about US$ 500,000. In addition, there are some minor works contracts, such as revision and widening of roads and bridges and local drain improvements amounting to about US$ 800,000. This work is to be completed during the next year if an extension of the Closing Date is granted. The electronic system for measurement, evaluation and control of water supplies has almost been completed. There have been some problems with the communication lines and instrumentation in getting this system into operation, and some corrective steps will have to be taken. The consultants' expert is at the project and it is expected that it may take several months to correct the condition. Additional equipment may be required, such as substitution of radio control for the metallic lines on which there is much interference.

4.3 One of the main operating problems is water management at the field level. The distribution system is not designed to deliver water to each farm plot. It is designed to flood the area between the laterals, which are spaced at 1 to 1¼ mile intervals. With this spacing, the system can only provide pre-soaking water for the entire area in 40 days, due to the length of time it takes the water to spread between canals. The agricultural requirements prescribe that this time should now be reduced to a 20-day delivery period to shorten the time between crops. Additional canals are therefore required at half-mile intervals to achieve this. Extra roads to provide better transportation for the area are also needed. Preliminary plans for such work indicate that costs would be about US$ 12 million for the northern section and US$ 8 million for the southern section. The Borrower estimates that a three-year extension of time in the Closing Date would be needed to carry out this work.

Right-of-way difficulties and problems with small-holder farmers, whose land would be taken away, are expected to cause considerable difficulty if the expansion of the distribution system is undertaken. The authority has therefore decided to defer any construction of additional distribution facilities until such time as the farmer attitudes on the project become more favorable.

Agricultural Development

The 1970 Off-season Rice Crop

5.1 The first off-season rice crop on an area of 83,000 ac produced about 110,000 tons of paddy and averaged 1.32 tons (520 gantangs) per acre. This compares favorably with the national average of about 400 gantangs per acre for the main season crop and 440 gantangs per acre for the off-season crop. Moreover, the 1.32 tons per acre average was depressed by the low yield of the acid sulfate soils on which the yield was only about 300 gantangs, or less, per acre. The yield of the non-acid soils was therefore more than 520 gantangs per acre.

5.2 The experience of farmers in carrying out the second cropping on the project was more favorable than had been expected. On the acid sulfate soils the anticipated difficulty with the young plants after transplanting did not occur. The short period between the two rice crops apparently prevented the soils from drying out completely and becoming strongly acid.

5.3 Only two drying plants were completed by the Federal Agricultural Marketing Authority (FAMA) before the harvest of the 1970 off-season crop. Each plant has a capacity of 640 tons of wet paddy at 23% moisture in a 16-hour working day. Because of deficiencies in the plant, layout and design, inexperienced staff and start-up difficulties, the two plants were able to purchase and dry only about 25,000 tons of wet paddy, which is about 25% of the off-season production.

5.4 A more serious condition was the purchase of paddy by the private rice mills which had already been dried by the farmers, and the rejection by private mills of paddy which was too wet. FAMA therefore purchased most of the wet paddy. There were a number of minor problems, such as the use of moisture meters which were new to, and raised doubts in the minds of, farmers, delays in transportation and loss in quality due to poor handling of the wet paddy.

5.5 A guaranteed price of M$ 16 per picul (133.3 lbs) at 13% moisture was offered by FAMA for paddy delivered to the plant. Farmers who sold to licensed paddy buyers at farm-gate or road-side prices obtained from M$ 13.5 to M$ 15.6 per picul. At the time of the mission's visit, FAMA still had some 15,000 tons of dry paddy in its warehouse. As the plants should be prepared to receive the 1971 off-season crop, the warehouses should be emptied as soon as possible.

The 1970 Main-season Crop

5.6 Bahagia was grown in both the off-season and the main season on the 83,000 ac on which double cropping was carrie out. In 1971 about 60,000 additional acres are scheduled to go into double cropping. Farmers have already switched to Bahagia production. The 1970 main season crop has just recently been harvested. The statistics on production and yield are not yet available. The general opinion is that it has been a satisfactory crop and no special agricultural problems have been reported. Extension officers have noted the presence of empty grains, which are presumably due to ineffective tillers resulting from an inadequate application of fertilizer. There have been no comments or views on this matter by the farmers. As a considerable amount of Bahagia is coming into the markets, private mills are buying at prices of M$ 15 to M$15.7 per picul, or slightly below the Government's guaranteed price of M$ 16 per picul. As the FAMA warehouses are still fully stocked with the 1970 off-season crop, it has been able to buy only small amounts of the new main season crop.

The 1971 Off-season Crop

5.7 The target area for this crop is 130,000 ac. As of March 7, about 55,000 ac have been watered and the remainder is being supplied with water. The Muda Agricultural Development Authority (MADA) estimates that there are now 450 4-wheel tractors and 800 power tillers serving the area, as compared with 300 tractors and 330 power tillers in the 1970 off-season. On its tour of the project area, the mission was of the opinion that there were fewer tractors in the field than were seen on its visit last year. MADA's advice and technical service to the farmers has been well distributed by handbills, road signs, and radio notices, so that each farmer is advised as to when he should prepare the bunds, start nurseries, prepare the main fields, transplant, weed and harvest.

5.8 In addition to the two drying plants already operating, FAMA has under construction five additional drying plants in the Muda project area. They are of the same design and capacity as the existing plants. The seven drying plants would be able to handle about 70,000 tons of paddy, or slightly over one-third of the expected production from the 130,000 ac. With some slight improvement in efficiency of operation, the plants should be able to handle over 100,000 tons. It is the mission's view that drying of paddy will continue for some time to be one of the most difficult and weak aspects of the Muda project.

5.9 The Government has recently received a report covering the study of drying and storage of paddy conducted by the Overseas Technical Cooperative Agency (OCTA) of Japan. The report covers the building of drying and storage facilities for operation by the FAs. The Government has not yet endorsed the Japanese plan, nor has it determined who should carry out the construction and operation of such facilities. At the present time, five new FAMA drying facilities are being built on sites adjacent to the new FA buildings. This would permit the FAs to undertake paddy drying and storage if the Government decides they should assume this responsibility from FAMA.

Future Cropping Plans

6.1 The future program anticipates a level of second cropping of 180,000 ac in 1972, 230,000 ac in 1973 and the entire project by 1974.

Farmers' Associations (FAs)

7.1 In addition to the one FA building which was completed at the time of the mission's visit last year, 13 more are now under construction and should be completed by May 1971. All are of the same design and are located on a 4-acre lot with an office building, warehouse, shed and shop for farm machinery. Each FA would service about 9,000 ac of paddy field. At the end of 1970, 16 FAs had been established on the Muda Project with a membership of about 6,000 families and share capital of M$ 45,000. The total sales from 12 FAs, for which records are obtainable, are M$ 225,000. MADA aims to register seven additional FAs in 1971, recruit 2,000 members, increase the share capital by M$ 90,000 and expand total sales to M$ 500,000.

7.2 No decision has yet been reached by MADA on the type of tractors and farm equipment the FAs should purchase with M$ 3 million already approved by the Government. After extensive trials in 1970, MADA found the KID tractor unsuitable. MADA is now working with the Wolverine Company of California to develop a special tractor for the project and with the Japanese firms to develop special agricultural machinery which would be used with the tractors. The objective is to develop equipment, which would, under Muda Project conditions, permit mechanization of land preparation operations, transplanting, fertilizer spreading, harvesting and the transport of wet paddy from the field. It is the mission's view that the length of time required to develop such equipment will be very long and that the project farmers will have to depend largely on conventional tractors and equipment in the immediate future.

Agricultural Credit

8.1 According to PAS, a total of M$ 58,403 of credit was extended in the Muda Project area for the 1970 off-season crop. Of this amount, MADA estimates that M$ 45,400 was handled by the FAs and M$ 13,003 by the Cooperatives. There was no private sector participation. For the 1970/71 main season crop, M$ 227,894 of credit was extended. The FAs handled M$ 121,542, the Cooperatives M$ 32,270 and private sources M$ 74,081. The main purchases with the credit in order of cost were fertilizer, insecticides and tractor service. The repayment of the 1970 off-season credit was nearly 100% complete. The 1970/71 main season credit repayment period is just starting.

8.2 There is a difference of opinion between MADA and the Agricultural Bank with regard to the extension of fertilizer loans to farms located on acid sulfate soils and the low average yield (300 gantangs, or less), MADA does not urge farmers to apply for such loans. On the other hand, the Agricultural Bank is of the opinion that the area, comprising some 50,000 ac in the northern half of the project, is too large to eliminate from the credit operation and would significantly affect the lending program. It is the mission's view that experimental data of fertilizer application on acid soils should be reviewed with the objective of establishing an economic level of fertilizer application with and without the use of lime. If adequate data are not available, field trials should be conducted on the project to obtain the necessary data. An appropriate level of lending for the acid soils could then be established.

Cost Estimate and Disbursements

9.1 Based upon current project estimates, which include some extra work to improve the project, up to US$ 4 million of the loan would not be disbursed under existing disbursement procedures, although the percentage of disbursements for civil works was increased from 40% to 74% in the autumn of 1969. The latest cost estimate is shown in Annex 3.

9.2 The completion of on-going work, the correction of unsatisfactory works and the completion of the most important additional work which should be carried out on the project could be completed with an extension of the closing date of approximately 18 months. This includes construction of the corrective work at the dam, additional roads, improvement of surface drainage channels, reconstruction of canal embankments on the south canal, where they have been damaged by poor drainage and flood waters, correction and improvement of the electronic system for water control, completion of the facilities to serve lands which cannot be served by gravity canals, the provision of additional funds for the PSA contract for studying and supervising the credit program, and several minor additions which would improve operations on the project.

9.3 To utilize the surplus funds in the loan, the Borrower has suggested that the percentage rate of disbursement for civil works should be increased. It was originally disbursed at a 40% rate, but since the autumn of 1969 it has been disbursed at a level of 74%. However, even if the rate was raised to 100% of the work yet to be done, the entire amount remaining in the loan would not be disbursed. Accordingly, the Borrower has further suggested that additional disbursements should be made for work which has been completed and on which disbursements of only 40% of the cost have been made. The balance of slightly over US$ 4 million could be disbursed in this manner against disbursement applications Nos. 1 through 80 and the total disbursements (40% plus 10%) would then reach about 50%.

Disbursement for civil works costs would then be about the same for all such works. The Borrower has also considered requesting disbursements for work on the access roads and for the telephone lines used by the water control system, for which no disbursements have been requested previously. However, this work was done by other Government agencies and it is difficult for the Borrower to retrieve the cost records for this work.

9.4 On July 9, 1970, at a Special Loan Committee meeting, it was agreed that the full loan should be disbursed. The technique of disbursement left undecided and the Malaysians' agreement to be sought on one of two methods (a) changing the percentage of withdrawals for Civl Works, or (b) financing additional items within the project description.

9.5 Because of the extra work proposed, the effects of country disturbances in May 1969 which stopped work, delays in land acquisition, exceptionally wet weather in 1970 and early 1971, and the delays in the preparation of designs for the pumping plant and minor works for the satisfactory operation of the project, the mission recommends that the Borrower be advised that the Bank would entertain a request for an extension in the Closing Date of approximately 18 months to complete the work described in paragraphs 4.1 and 4.2 The Bank should also advise the Borrower that it would entertain a request for additional disbursement against Disbursement Applications Nos. 1 through 80 to utilize any surplus funds. The estimated disbursement schedule and revised List of Goods shown in Annexes 4 and 5 have been prepared on this basis. Based on the revised cost estimate, including the revised estimate of interest during construction (US$ 74.5, plus US$ 8.6 million), the portion financed by the Bank would amount to 54%.

Organization and Staffing

10.1 In July of the past year legislation was approved to empower the Minister of Agriculture to establish an Authority on the project for the purpose of implementing an agricultural development program and to provide and maintain agricultural services in the area. The Authority reports directly to the Minister of Agriculture and is governed by the board of directors consisting of persons appointed by the Prime Minister and selected from the Ministry of Commerce, the Department of Irrigation and Drainage, the Agricultural Bank and a state secretary from each of the two states in which the project is located. The general manager of the project is also a board member with voting powers. The Authority has broad powers and can take action on many agricultural functions without referring to, or getting approval from, line agencies in Government. It has power to record and staff its organization for any necessary functions, including project engineers who will report to the project minister rather than the Director of DID.

10.2 Staffing of the Authority has become a serious problem because of the shortage of all professional staff in Malaysia. The Prime Minister has ordered that priority should be given to recruitment of staff for the Authority. The engineering staff is being shifted from a construction to an O&M activity. the DID has provided engineers to maintain a staffing level of 80% of needs, although DID has an even greater shortage of engineers. In general, managerial and prime level staffing for MADA is satisfactory. However, at lower levels, the staffing is inadequate as they have only been able to meet about 75% of their requirements. Some personnel difficulties have been experienced in

changing over to the Authority operation because clarification of administrative matters such as pensions, salaries, fringe benefits and other relationships have been affected. Some loss of staff has occurred because of this condition. Within a short time, MADA hopes to add to its personnel role 3 additional agricultural officers, 16 agricultural assistants, and 56 field assistants.

Future Investment Program

11.1 The DID is proposing a large scale drainage and irrigation project in the south-west Johore region. The project would cover nearly a half million acres, principally peat and mineral soils. Lack of adequate drainage in the area is severely restricting crop production. Crops to be produced on the project would include coconut, rubber and pineapple. The DID has started work on the feasibility report for this project and hopes to prepare a draft report by the end of the year. The recent sector mission visited Malaysia and estimated an investment of about US$ 30 million would be necessary to develop the area.

Future Missions

12.1 The next supervision mission should visit the project in January or February of next year.

LWBartsch/HTChang:mm-V

cc: Messrs. Chadenet, Baum, King, Rovani, Lee, Engelmann, Lithgow, Evans, Wapenhans, McIvor, Adler, Takahashi, Darnell, Forcum, Veraart, Sandberg/Jentgèn (Area), Sella (Legal), Hasal (Controllers)

MALAYSIA

AGRICULTURAL SECTOR REVIEW

RICE

Consumption

1. Rice is the principal staple of the Malaysian diet. It comprises more than 20 percent of the food consumed by the entire population, and makes up as much as 35 percent of the diet of rural Malays. Present annual consumption of rice in West Malaysia is estimated to be about 1.1 million tons, or about 255 lb per capita. This level of consumption is about average for South-East Asia, being less than South Vietnam (about 370 lb per capita) but greater than Indonesia or the Philippines (about 190 lb per capita). Both price and income elasticities for rice are very low in Malaysia, however, and per capita consumption can be expected to decline somewhat over the next decade. As incomes rise, there is likely to be a gradual decrease in consumption of rice and an increase in consumption of wheat, higher value protein foods, fruit and vegetables. With a population growth rate of 2.8 percent annually, the total demand for rice is projected to grow as follows:

Table 1: PROJECTED DEMAND FOR RICE IN WEST MALAYSIA
('000 tons of milled rice)

	1970	1975	1980	1985
With annual per capita consumption of:				
260 lbs	1,121.3	1,253.2	1,477.8	1,696.6
250 lbs	1,072.9	1,205.0	1,414.1	1,623.5
240 lbs	1,024.5	1,156.8	1,350.4	1,550.4

Source: Mission estimates.

Production

2. The Government of Malaysia has strongly encouraged domestic padi 1/ production in recent years, with the goal of reaching self-sufficiency. Measures have included direct support through the operation of the Guaranteed Minimum Price (GMP) and a fertilizer subsidy scheme; and indirect support through the expansion of irrigation and drainage facilities, a

1/ Through this Annex, "padi" refers to the grain before milling and "rice" to the grain after milling; milling efficiency is generally assumed to be about 65 percent. The commonly used measures for padi and rice are the gantang (about 5.6 lb) and the picul (133 lb).

fairly intensive rice research program, increased extension services, control of imports and, more recently, intervention in marketing through the Padi and Rice Marketing Board. These measures have been successful quantitatively, and production of rice in West Malaysia has risen from 605,000 tons in 1962/62 to 867,000 tons in 1968/69 -- an average annual increase of 5.3 percent. In the same period, imports fell from 316,000 tons to 227,000 tons, and the proportion of demand met by domestic production grew from 66 percent to 79 percent (see Annex 9, Table 2.12).

3. This increase in rice production in West Malaysia is largely the result of expansion of the area of wet padi, which now amounts to about 950,000 acres. The area under double-cropping grew particularly fast, from 46,000 acres in 1962 to about 300,000 acres in 1970. This increase has been achieved largely through major irrigation schemes in Perak, Penang and Selangor, as well as the very large Muda project in Kedah and Perlis, of which the first 80,000 acres were double-cropped in 1970. It is expected that the entire Muda area (260,000 acres) will be double-cropped by 1973, together with 47,000 acres on the Kemubu scheme in Kelantan. The Besut project in Trengganu (12,600 acres) and a number of small schemes throughout the country will raise the total area of wet padi to about 1.0 million acres by 1975. The Drainage and Irrigation Division estimates that of this area about 660,000 acres will be double-cropped; this figure appears somewhat optimistic, and the actual area will probably be in the range of 550,000-600,000 acres. There are, in addition, about 55,000 acres of dry hill padi in West Malaysia, but yields are very low and production only amounts to about 2 percent of the total.

Table 2: RICE AREA AND PRODUCTION IN WEST MALAYSIA, 1969

	Area ('000 acres)	Yield (gantangs of padi per acre)	Production ('000 tons of milled rice)
Wet padi: Main-season	940.2	431	662.9
: Off-season	237.3	481	186.2
Dry padi	56.5	186	17.3
Total	1,234.0	429	866.4

Source: Department of Statistics, Kuala Lumpur.

4. Padi yields have grown only slowly in recent years. Between 1961-63 and 1967-69, main-season wet padi yields grew from 390 to 410 gantangs per acre on average, off-season wet padi yields grew from 425 to 460 gantangs per acre, and dry padi fluctuated around an average of 200 gantangs per acre. Yields in the east coast states of Kelantan, Pahang and Johore are consistently lower than those on the west coast, and yields in Selangor have been the highest. These differences are due to better water control, more intensive land use and better management on the west coast. It can be expected, however, that yields will increase rapidly in the next few

years as new, high-yielding varieties are more widely grown and suitable management practices are adopted. Bahagia, a local adaptation of IR-5, is being distributed on a large scale, and its use in conjunction with improved water control and greater use of fertilizers and pesticides should lead to significant yield increases.

5. It is estimated that by 1975 yields of padi will average 500 gantangs per acre for the main-season crop and 600 gantangs per acre for the off-season crop. If so, annual production of rice will be about 1.4 million tons in 1975 compared to projected consumption of about 1.2 million tons. West Malaysia can, therefore, expect a rice surplus of the order of 200,000 tons by the mid-1970's. If yields are 10 percent lower than these estimates, production would reach 1.3 million tons by 1975 and would still be surplus to domestic requirements. If, in addition to smaller yield increases, the double-cropped area should only be 560,000 acres by 1975, then production would be about 1.2 million tons, approximately the same as consumption.

Table 3: PROJECTED RICE PRODUCTION IN WEST MALAYSIA IN 1975

	Area ('000 acres)	Yield (gantangs of padi per acre)	Production Padi ('000 tons)	Production Rice ('000 tons)
Dry padi	55	250	30	19
Wet padi, single cropped:				
poor water control	217	400	217	140
adequate water control	121	500	151	98
Wet padi, double cropped:				
main-season	(662)	500	827	538
off-season	(662)	600	993	645
Total	1,055	518	2,218	1,440
	(1,717) /1			

/1 Cropped acreage.

Source: Drainage and Irrigation Division, Kuala Lumpur, and Mission estimates.

6. The states of East Malaysia are pursuing padi production programs of their own. Sabah is increasing the area of both single and double-cropped padi land, and is hoping to reach self-sufficiency in rice by the mid-1970's. The Government of Sarawak is also endeavoring to raise padi production, but it is expected that imports on the order of 15,000-20,000 tons of rice annually will still be necessary by the mid-1970's. On the basis of these assumptions, the Federation of Malaysia is likely to be a rice-surplus nation by about 1975. Consumption after 1975 is unlikely to grow at more than 2.5 percent annually, and this should be met by yield increases on a fairly static padi acreage.

Table 4: PROJECTED SUPPLY AND DEMAND FOR RICE IN MALAYSIA IN 1975
('000 of long tons)

	Production	Consumption /1	Balance
West Malaysia	1,440 /2	1,250	+190
Sabah	90	90	-
Sarawak	115	130	- 15
Total	1,645	1,470	+175

/1 On the basis of annual consumption of 260 lb per capita and population growth rate of 2.8 percent annually.

/2 Under optimistic production projections.

Source: Mission estimates.

7. In addition to the expansion of irrigation facilities, several other factors have influenced yield levels and production trends. The pattern of off-season planting has changed markedly during the past few years with the introduction of indica-japonica hybrid varieties. The principal off-season varieties grown at present are Malinja, Mahsuri, Ria and Bahagia, all of which are non-photosensitive, of relatively short maturation (130-140 days) and potentially capable of high yields. Bahagia is being used increasingly for both main and off-season planting, and has a yield potential of 800-900 gantangs per acre per crop. It is also favored because it is moderately resistant to padi blast and penyakit merah diseases and because it has better grain characteristics than the earlier IRRI introductions. Seed multiplication is carried out by the farmers themselves after small quantities are distributed free of charge by the Division of Agriculture. While this method is effective, seed multiplication through accredited growers should also be encouraged to ensure purity.

8. A padi fertilizer scheme, including a 30 percent subsidy, was operated during the First Malaysia Plan and involved distribution of about 30,000 tons annually. Present fertilizer recommendations for the west coast are a nursery application of 8 lb ammonium phosphate and a main crop dressing of 250 lb (55:40:15), including top dressing with urea. Present fertilizer usage, therefore, amounts to only 20 percent of the recommended rate. The slow increase in fertilizer usage in the past was probably due to the poor yield responses of the traditional varieties, and it is expected that the introduction of higher-yielding varieties, together with improved water control, will greatly increase fertilizer usage in the future. A continued extension effort will still be necessary to ensure these improvements, however, and the Government's plans to end the padi fertilizer subsidy would seem to be premature. In the longer term, use of fertilizers at the desirable level will depend on the establishment of an effective credit supply in the principal padi areas.

9. Relatively little mechanization has occurred to date in padi areas, although there has been some increase in tractor usage in recent

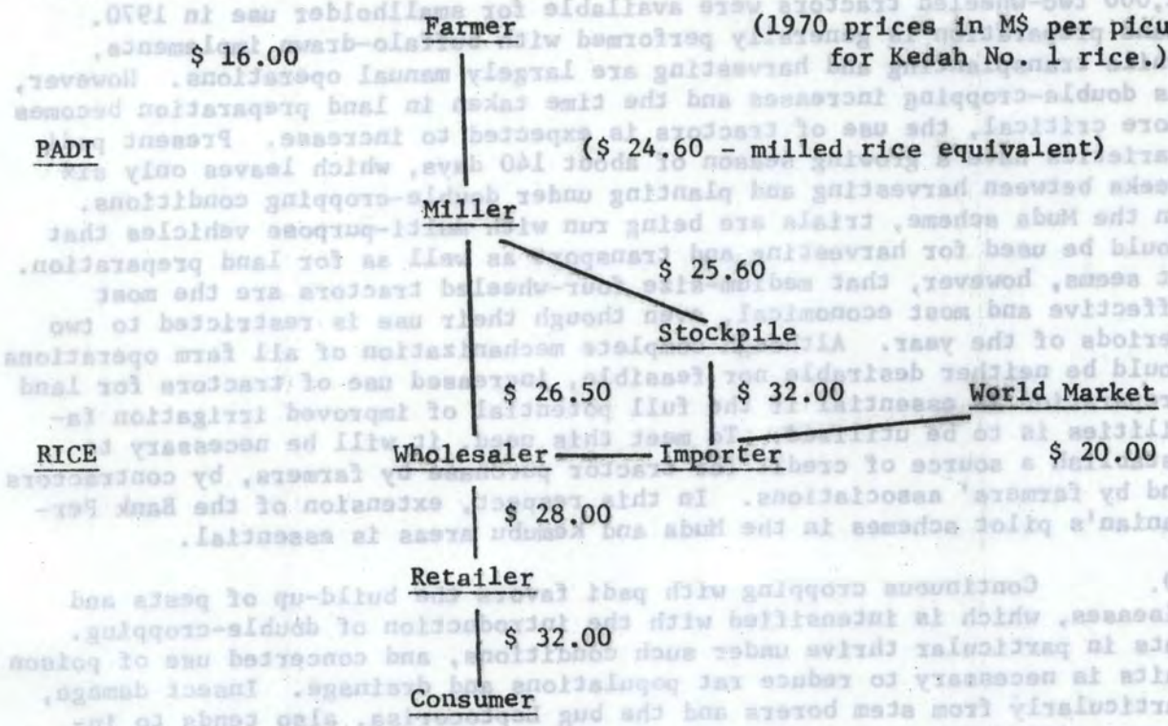
years. It is estimated that about 1,500 four-wheeled tractors and about 2,000 two-wheeled tractors were available for smallholder use in 1970. Land preparation is generally performed with buffalo-drawn implements, while transplanting and harvesting are largely manual operations. However, as double-cropping increases and the time taken in land preparation becomes more critical, the use of tractors is expected to increase. Present padi varieties have a growing season of about 140 days, which leaves only six weeks between harvesting and planting under double-cropping conditions. In the Muda scheme, trials are being run with multi-purpose vehicles that could be used for harvesting and transport as well as for land preparation. It seems, however, that medium-size four-wheeled tractors are the most effective and most economical, even though their use is restricted to two periods of the year. Although complete mechanization of all farm operations would be neither desirable nor feasible, increased use of tractors for land preparation is essential if the full potential of improved irrigation facilities is to be utilized. To meet this need, it will be necessary to establish a source of credit for tractor purchase by farmers, by contractors and by farmers' associations. In this respect, extension of the Bank Pertanian's pilot schemes in the Muda and Kemubu areas is essential.

10. Continuous cropping with padi favors the build-up of pests and diseases, which is intensified with the introduction of double-cropping. Rats in particular thrive under such conditions, and concerted use of poison baits is necessary to reduce rat populations and drainage. Insect damage, particularly from stem borers and the bug Leptocorisa, also tends to increase with double-cropping unless checked by use of insecticides. The most serious padi disease, penyakit merah virus, can be controlled by the use of resistant varieties and by spraying for control of the virus vector, a leaf hopper. Padi blast is not a major problem as long as resistant varieties are planted; however, continued breeding programs are necessary to maintain this resistance.

Marketing

11. The problem of satisfactory arrangements for padi marketing has become larger and more complex with the prospects for substantially increased production which have now been opened up. The typical padi grower has always been a relatively small farmer in Malaysia in a somewhat weak bargaining position vis-a-vis the padi dealer, particularly as he has been often indebted to the latter. These dealers who linked the farmers with the rice mills are usually small, and hence inefficient, operators. Milling and transport facilities in many cases are also inadequate. There is, in addition, the practice of padi being sold by volume rather than weight, to the producer's disadvantage. To these factors is now added the need for a sizable expansion in facilities for handling the crop, e.g. purchase, transportation and milling. Another important feature of the new situation is that many who were earlier subsistence farmers will now have a surplus to sell. Further, with double-cropping, padi is harvested in wet weather conditions and suffers severely in value unless immediately dried. Artificial drying facilities have, therefore, to be organized on a large scale.

12. The existing channels for the marketing and distribution of padi/rice are represented in the following diagram:



13. Federal intervention in rice marketing takes three forms. The Government Stockpile, introduced in 1946 as a result of wartime experience with rice shortages, maintains a rice stock as a strategic reserve. Details on the operation of the Stockpile are secret, but its size is calculated to provide about 4.7 lbs of rice per person for a certain number of weeks. It is thought that the Stockpile does not exceed 100,000 tons of rice, that the stock is turned over every 6-12 months, and that 20-40 percent of national production is purchased by the Stockpile in a year. The stock is administered by the Ministry of Commerce and Industry, and is financed by a revolving fund of about M$ 73 million. Rice is sold by the Stockpile to importers on a contingency basis tied to import licenses. The price of Stockpile rice is generally above wholesale prices, but the importers cover this loss with high margins on sales of imported rice.

14. The Guaranteed Minimum Price (GMP) was first introduced in 1959 to stabilize rice prices and to provide an incentive for greater domestic rice production. The level of the GMP for clean, dry (13 percent moisture content) padi delivered to the mill has oscillated between M$ 12 and M$ 17 per picul but has remained stable at M$ 16 since 1962. The GMP, which functions as a floor price, is not implemented directly but through the Stockpile. On purchasing rice from a miller, the Stockpile requires evidence that the miller paid at least the GMP to the farmer when purchasing his padi.

15. The third form of federal intervention is through the Padi and Rice Marketing Board, which was established in 1967 to implement the Government padi marketing program. The Board functions by licensing and controlling rice mills, by operating drying and storage facilities and by direct purchasing and milling of rice. By 1970, the Board was operating regulatory schemes in all the states of West Malaysia and was participating in padi trading in the Tanjong Karang (Selangor) and Muda (Kedah-Perlis) regions. It is planned to extend the licensing scheme to Sarawak and to enter direct trading in Kelantan and Trengganu during the Second Malaysia Plan period. The Board has also established two drier complexes in the Muda area, and it is intended to construct 15 more over the next five years.

16. The present system of padi and rice marketing has been fairly effective in stabilizing prices to the producer, in maintaining a strategic reserve stock and in controlling the level of imports into Malaysia. It has, however, certain disadvantages which will become increasingly important as the country approaches self-sufficiency. Although the GMP has been held at $16 per picul for a number of years, the average price received by the farmer is considerably below this, probably between $13 and $14 per picul. This difference is due partly to the inability of the farmer to meet the conditions of dryness and quality of padi required owing to the lack of facilities, and partly to the lack of a mechanism to implement the GMP directly with a consequent reliance on the good faith of millers. The large number of small millers and a guaranteed market for domestic rice have resulted in low milling efficiency and quality, with the result that the demand for high quality rice has been met very largely by imports.

17. The Stockpile is poorly suited to implementation of a price support program and the secrecy covering its operation has led to general inefficiency and high operating costs. The Stockpile, while specifying certain minimum standards, pays only one price for rice purchased from the millers and is, therefore, sold mainly poor rice while higher quality products are sold directly to wholesalers.

18. The establishment of the Padi and Rice Marketing Board to regulate and participate in padi and rice trading has inevitably led to an overlapping of function between itself and the Stockpile, and there is an increasing conflict between the two agencies over their responsibilities and powers. It is very necessary that the whole mechanism for federal intervention be streamlined and simplified in the future.1/

19. At present, the GMP is maintained solely by the indirect control of the Stockpile through its purchases from millers. To cover the purchase cost of rice, based on the GMP, as well as its high operating costs the Stockpile has to sell its rice at a price that is generally higher than market levels. This is made possible by requiring rice importers to buy

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1/ Since this was written, the Government has established a rice marketing corporation to absorb the Padi and Rice Marketing Board and to incorporate also the functions of the Stockpile.

rice from the Stockpile as a condition for obtaining an import license. The importer is willing to do this as he makes sufficient profit on the imported rice to cover losses on the domestic rice purchased from the Stockpile. Thus, the Stockpile manages both to cover its operating costs and to control the flow of imports. However, this system will not be workable once West Malaysia reaches self-sufficiency. With the cessation of imports, it will no longer be possible to cover the cost of the Stockpile and maintain the GMP with the surplus obtained from the high prices charged for imported rice.

20. Once the country is no longer dependent on imports, the principal justification for holding a reserve stock is removed. If the Stockpile is discontinued, however, there will be no means of implementing the GMP. With sufficient domestic production to meet demand, and perhaps a small surplus, the present price levels could not be maintained, and both the GMP and consumer prices would fall as long as domestic prices remained considerably above world prices, as they are now 1/. If the Stockpile is continued, it will no longer be able to cover its operating costs by selling to importers on a contingency basis. If present producer and consumer prices are to be maintained, it is estimated that the Stockpile would lose about M$ 3 per picul of rice handled. It is far from certain, however, that the indirect control exerted by the Stockpile under the present system would be sufficient to ensure price stability in a situation of fluctuating but generally surplus rice production.

21. The cost of maintaining the Stockpile and price support program, once self-sufficiency is attained, is hard to calculate. Assuming the Stockpile handles 100,000 tons of rice annually, at a loss of M$ 3 per picul, then the financial burden to the Government would amount to about M$ 5 million annually. To operate a fully effective price stabilization program, however, would probably cost substantially more. An alternative means of calculating the cost is to consider the present financial margin on the sale of imports. Assuming imports in 1970 of 200,000 tons of milled rice with a gross margin to the importer, who is also the wholesaler, of about M$ 120 per ton (between CIF cost of US$115 and wholesale price of M$ 465 per ton), then the gross surplus on imports amounts to about M$ 24 million annually. This surplus, which under the present system is distributed between the Stockpile and the importers, will be lost once the country is self-sufficient.

22. It is apparent that, whatever rice policy the Malaysian Government decides to pursue, the existing mechanisms will have to be changed. Once supply meets or exceeds demand, a more direct form of Government control will be necessary if prices are to be stabilized above world market levels. The Stockpile, in its present form, is clearly not suited to implement a

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1/ The wholesale price of Kedah No. 1 rice in Kuala Lumpur in July/August 1970 was M$ 28.00 per picul or equivalent to US$155 per ton; this compares with an FOB Rangoon price of US$103 per ton for Burmese rice in the same period.

major price support program nor to operate as a buffer stock, buying when prices fall below a certain floor. The Padi and Rice Marketing Board would be better suited to this function, but it lacks the physical and administrative capacity to handle the volume of grain necessary. As imports are likely to be negligible by 1973/74, immediate Government action to establish both a rice policy and the machinery to implement it is essential.

23. In addition to the changes necessary in rice strategy, there is considerable need for improvement in the efficiency of the marketing mechanism at the mill level. At present, most padi is processed in a very large number of old, inefficient mills, leading to high costs and a low-quality product. An expansion of milling capacity is necessary to handle increasing production, and this opportunity should be taken to rationalize the milling industry. A start has been made with the regulating activities of the Board, and these should be extended to include the whole of East and West Malaysia.

24. As the area of double-cropped padi increases, it also becomes necessary to install drying facilities to handle grain harvested in the wet season. The Board succeeded in installing enough driers in the Muda area to cope with the first off-season crop in 1970, but neither the design nor the location of these is adequate. The considerable difference between the GMP, at M$ 16 per picul, and the price actually received by the farmer of M$ 13-14 per picul, is due in large part to the high moisture and dirt content of the padi delivered to the mill. Efforts to improve this quality, and so reduce the deductions made from the GMP, could considerably alleviate any reduction in GMP that might result from surplus domestic production. It should also be possible to improve milling efficiency which, although assumed to be about 65 percent at present, is probably considerably lower on average.

Future Rice Policy

25. The Malaysian Government is faced with the need to define both a long-term rice strategy to take into account West Malaysia's new situation as a rice-surplus nation, and an intermediate policy to maintain price stability as imports are reduced over the next few years. Long-term Government policy should be directed either at attaining approximate equilibrium between domestic production and consumption of rice, or at lowering production costs sufficiently to allow surpluses to be sold on the world market without loss.

26. The extension of irrigation facilities and the introduction of high-yielding varieties have substantially changed the cost-price structure of padi production under double-cropping conditions. The benefits of this change are such that a gradual reduction in the price of rice will not cause undue financial hardship to padi farmers in double-cropped areas. In view of the very high cost to the economy that would result from maintaining present price levels once West Malaysia reaches self-sufficiency, future rice policy should be directed at reducing the price of rice towards world levels. It is expected that by the mid-1970's more than 80 percent of the

rice produced in West Malaysia will be from double-cropped padi land. The remainder will be produced on more than 400,000 acres of land where the water supply is inadequate for two crops. Of this area, about 270,000 acres lack sufficient water to ensure even a single crop. In the Malaysian context of potential rice surpluses and high costs relative to world levels, such land must be considered only marginally suited to padi production, and in the overall interests of the economy would be better employed in some other form of production. A reduction in the price of rice would have severe financial repercussions on these padi farmers outside double-cropped areas and it is essential that the Malaysian Government should take measures to develop alternative sources of income for farmers on marginal padi land before reducing the price of rice.

27. The introduction of improved rice varieties will only be beneficial to the economy in the long term if the resultant increased production leads to the release of land, labor and other resources that can be employed in alternative forms of production. As long as Malaysia is a rice-deficit nation, the resource released is foreign exchange which can be reinvested in further primary or secondary production or used for increased consumption. Once Malaysia becomes a rice-surplus nation, however, the resources released are land and labor, neither of which has the mobility or the alternative opportunities enjoyed by capital. The nation is faced with considerable rural un- and under-employment already, much of it in padi-producing areas, and much of the land in padi has no alternative use. The full benefits from the introduction of high-yielding varieties, therefore, will only be realized if the surpluses of land and labor can be put to productive use.

28. The first objective of Government rice policy must be to identify and find alternative use for marginal padi land. There is, however, widespread cultivation of padi as a subsistence crop, where only a small proportion of production is sold and land use is clearly not determined by market prices. It must be assumed that this padi cultivation will continue regardless of Government policy. Of the large area of padi grown at least in part as a cash crop which is not on double-cropped land, some is on land that has no feasible alternative use, and will continue to grow padi. On much of the remainder, however, other crops can be grown. Under the present market structure, with a support price for rice but not for most other crops, padi is the most profitable crop. If the rice price is lowered and applied research results in improved varieties for maize and sorghum, such land could be used to grow several crops of feedgrain annually, and would give a better income to the farmer than in padi.

29. The type of use will necessarily vary with the location and condition of the land. Where land is heavy and low-lying, it may be preferable to grow a main season padi crop followed by one or two crops of maize or sorghum in the off-season. Installation of drainage facilities may be necessary for off-season cultivation of some land. In other cases, the land may be suited to cultivation of feedgrains throughout the year, perhaps in rotation with groundnuts or other annual crops. In some locations, production of fruits or vegetables could be encouraged. In all cases, however,

Government action is necessary to identify and promote alternative land use opportunities, to perform adaptive research, and to provide adequate drainage, credit and marketing facilities.

30. In must be emphasized that, without appropriate Government action, the plight of padi farmers outside double-cropping areas will become acute over the next decade. The Government must have established the production of other crops on an agronomically and economically feasible basis before major changes are made in the existing price structure of padi. However, a long-term rice policy in Malaysia must also include a lowering of the rice price towards world levels. This would have the effect of both reducing the incentive for rice production, so matching production trends more closely with expected consumption, and also of lowering the price to the consumer of the principal staple food and thus benefitting the great mass of the population. The Malaysian Government has made large expenditures in padi over the past decade, all of which have benefitted the padi farmer. To realize in full the benefits of technological improvements such as double-cropping and new varieties, however, the cost of rice should be reduced, so benefitting all other sectors of the economy. Because of the importance of rice as a staple food, a reduction in price would lower food costs and raise real incomes for the great majority of the population.

31. In the short term, major changes will have to be made in the existing marketing structure if the transition from large-scale rice imports to self-sufficiency is to be achieved without severe price fluctuations. As imports are reduced, a direct mechanism of price control will be necessary to maintain price stability. The aim should be to operate a buffer stock, with intervention only when the price passes beyond a fairly wide range. Within this range, market forces should be allowed to operate freely. The Padi and Rice Marketing Board would be suitable to perform this function, and should be given the powers and resources that it would require. The justification for a strategic rice reserve stock becomes less apparent as imports are reduced and the flow of domestic rice becomes more even as off-season production increases. If it is decided that such a reserve stock is still necessary, however, its operation should be coordinated with, if not controlled by, the Marketing Board. Consideration should be given to whether the cost of maintaining the reserve stock should be met from the federal budget or passed on to the consumer in the form of higher prices.

32. The level of the Guaranteed Minimum Price must be kept under review. Although the eventual aim should be to lower this price towards world market levels, care must be taken to protect the interests of padi farmers. In particular, as discussed above, no significant reduction should be introduced until alternative sources of income are established for marginal padi farmers. As imports decline, maintenance of the GMP will become increasingly costly. It will be necessary to decide whether this cost should be met by the general taxpayer through the federal Government or by the consumer through higher rice prices.

33. At the same time, it is necessary to improve the marketing of padi to achieve for the farmer a price nearer the GMP than that which he receives at present. This can be achieved by constructing more rice

driers in double-cropped areas, by establishing more cooperative and public-owned mills and by raising the size and efficiency of existing mills. Measures should also be taken to utilize rice by-products, especially bran, to a larger extent than at present. Similarly, grading of padi and rice should be introduced at all stages of marketing to provide an incentive for better-quality production and processing.

34. The emphasis in future research and extension programs should be directed at finding alternative uses for marginal single-cropped padi land in the main and/or off-season. At the same time, however, a continuation of rice breeding and adaptation programs is necessary to ensure continuing productivity increases in the principal padi-producing regions, so that long-term future growth in demand can be met from the same padi area. Similarly, although no major new investments are required in irrigation facilities beyond ongoing programs, continued efforts will be needed to maintain and improve facilities on existing schemes.

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

INTERNATIONAL DEVELOPMENT ASSOCIATION

OFFICE MEMORANDUM

TO: Mr. S. J. G. Burt DATE: October 27, 1971.

FROM: G. Pennisi

SUBJECT: MALAYSIA - Appraisal of an Education Project
Back-to-Office Report

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1. Malaysia is a multiracial country whose general education system is quantitatively highly developed: primary school enrollments represent over 90% of the corresponding age group and enrollments in general secondary schools are also relatively high. The emphasis is on academic subjects and technical-vocational education is somewhat neglected. The educational strategy of the government, as set out in the Second Malaysian Plan, includes:-

(i) promotion of national unity by the consolidation of the education system, involving the phased introduction of Bahasa Malaysia, the developing national language, as the main medium of instruction in schools;

(ii) the development of education and training programs more relevant to the country's needs for economic development;

(iii) more emphasis on science and technology; and

(iv) the development of the research, planning and implementation capability to meet these objectives.

2. The education plan would be carried out mainly by calling on domestic resources. The project proposed for Bank financing would assist the implementation of the plan in four areas:

(i) curriculum development and continuing education for teachers and other education personnel;

(ii) introduction of educational television at the primary and secondary level;

(iii) supply of teachers of science and of high level manpower with a scientific background; and

(iv) expansion and reform of technical-vocational education.

3. The proposed project as discussed with the government would consist of construction and equipment for:

		Student Places	Boarding Places	Estimated Cost (US$ million)
(i)	National Education Development Center	n.a.	120	0.8
(ii)	Educational Television	n.a.	n.a.	1.4
(iii)	Faculty of Science and communal facilities at the University of Penang	3,000	500	10.1
(iv)	1 technical and 7 vocational schools	4,700	3,300	6.2
(v)	Contingencies			2.6
				21.1

4. The foreign exchange component is tentatively estimated at US$ 8.7 million or about 40% of the total project cost. Original government proposals included also assistance for three agriculture-home science schools. The preliminary findings of the appraisal mission indicated that these three schools did not appear to be justified and the request for Bank assistance was withdrawn by the government.

5. An appraisal report is being prepared.

c.c. Messrs. Chadenet, Baum, Ripman, Ballantine, Calika, J. Lee, Hultin, Dunnill, Koulourianos, Gamble, Krohn, Welter, Futagami, Osborne, Jengten, Sandberg.

INTERNATIONAL DEVELOPMENT ASSOCIATION | INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT | INTERNATIONAL FINANCE CORPORATION

OFFICE MEMORANDUM

TO: Mr. Robert S. McNamara (through Mr. Chadenet) DATE: October 26, 1971

FROM: Robert Sadove

SUBJECT: Briefing Note
MALAYSIA - Kuala Lumpur Urban Federal Highway Project

1. On November 15, 1971, the Urban Projects Division will begin appraising this project to improve the seven-mile urban portion of Federal Highway II which runs from central Kuala Lumpur to and through the adjacent suburban new town of Petaling Jaya. Estimated project costs are US$23.8 million of which US$10.7 million are for foreign exchange. Estimated internal economic return for the project is 23.5% (38.0% if values for user time savings are included in the benefit stream).

Purpose

2. The project would improve access to central Kuala Lumpur from Petaling Jaya, from a second new town at Shah'Alam (Batu Tiga), from Port Swettenham (Malaysia's primary seaport), and from the airport. It would relieve congestion and would anticipate future traffic growth by constructing grade-separated intersections and by widening the roadway from two to three lanes in each direction. And it would increase the safety of motorcycle and scooter riders (22% of current traffic), as well as improve the flow of non-motorcycle traffic, by providing separate cycle lanes on either side of the highway.

3. The project is also seen as the first step toward future Bank lending for urban development in Kuala Lumpur, and at least one piggy-back study (for solutions to intra-city traffic congestion) will be included in the loan. When first considering the project, the Bank also proposed a piggy-back study of the Klang Valley region as one of the conditions of lending. This second study has received strong support from the Government and is now moving ahead on its own with UNDP financing and the Bank acting as executing agency. Its output will include identification of high priority projects for feasibility study and future investment.

Background

4. With growth in Malaysia's economy (5-6% per annum in real gross national income during the past decade), particularly in manufacturing (10-12% per annum for the same period), Kuala Lumpur and the Klang Valley region extending westward to Port Swettenham have assumed special importance in the development of the Malaysia. With a population of about 500,000, Kuala Lumpur is growing at an estimated 5% per annum compared with 2.8% for the nation as a whole. The Klang Valley region (including Kuala Lumpur) has an estimated population of 1.1 million which has been projected by the Government to double by 1990.

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5. As the major transport facility leading west from Kuala Lumpur, Federal Highway II has played and will continue to play an important role in regional development. It extends down the length of the Klang Valley to Port Swettenham 35 miles away, and it passes through the new towns of Petaling Jaya and Shah'Alam as well as through the older town of Klang.

6. Petaling Jaya is a suburban new town which was founded in 1952, and now contains over 300 factories and about 90,000 people. Shah'Alam is 10 miles further west of Petaling Jaya and is in the early stages of development. With a population of only 1,500, it is now being occupied by auto assembly plants and manufacturing operations. Port Swettenham became Malaysia's primary seaport after the separation of Singapore, and it will receive government investments of M$ 68 million (US$23.0 million) for port development during the Second Malaysia Plan.

7. Planned development of these centers reflects Government policy of channeling future growth of Kuala Lumpur to the west. Other possible growth axes for the city encounter much less hospitable terrain, and the new towns in the Klang Valley should continue to serve as focal points for development. In this context, the Urban Federal Highway Project assumes special importance as the major transport facility in the region.

The Project

8. The section of Federal Highway II from Kuala Lumpur through Petaling Jaya is a heavily used, four-lane, divided highway with 11 intersections at grade. Development of Petaling Jaya on both sides of the highway has generated traffic which frequently congests the present facility. Weekday traffic on the busiest section is 72,000 vehicles of which 44,000 are automobiles. Half the latter figure (allowing for a large proportion of round trips) represents somewhat over 5% of Malaysia's automobiles.

9. The Urban Federal Highway Project would improve seven miles of Federal Highway II along its present allignment by widening the roadway to three lanes in each direction and by constructing nine grade-separated intersections. This improvement would be able to handle traffic growth anticipated through the mid-1980's. The cost per mile (estimated at US$3.4 million) of this project is characteristic of a high use urban road and is due in large measure to the amount of structural work involved in the intersections. As the major urban transport facility of Kuala Lumpur, the project shows high economic returns and complements the Government's new town development policy to the west of the city.

10. The project was first identified by an Urban Projects Division mission in January 1970, and the Bank assisted in drafting terms of reference for engineering consultants. Funded by British aid, feasibility studies and preliminary engineering were completed by consulting engineers

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Freeman Fox and Partners (British) in September 1971. The Consultants have been retained for detailed engineering which is scheduled to begin within a few days, and the Bank has agreed to consider a request from the Government for retroactive financing of the foreign exchange costs of this phase of the work (estimated at US$1.0 million). A project preparation mission visited Kuala Lumpur in August 1971. As indicated at the outset, appraisal of the project will begin during the middle of November.

Current Status of the Project

11. The project is included in the Country Program Paper for lending in FY 1972; and if the Consultants meet the schedule agreed upon with the Bank and the Government, loan negotiations should take place in April 1972.

Klang Valley Study

12. The Bank is acting as executing agency for the UNDP-funded Klang Valley Study. Field work for the study will last one year and will begin in January 1972. Total cost of the study is US$560,000 of which the UNDP is supplying US$420,000. Consultants Shankland Cox (British) in association with Freeman Fox will conduct the study with Malaysian counterpart staff under the auspices of a Government steering committee.

13. Objectives of the Klang Valley Study are (a) to improve and coordinate planning within the region; (b) to increase the Government's effectiveness in implementing its plans; and (c) to identify specific high priority projects for feasibility study and investment. Nearly two years ago, the Bank proposed the study as a piggyback operation in the Urban Federal Highway Project. However, UNDP financing has made it possible to start the study sooner than would otherwise have been the case, and it should identify urban and regional development projects for future Bank lending.

Remaining Problems

14. While useful data on the subject are limited, it is clear that Kuala Lumpur has a number of problems beyond the scope of the Urban Federal Highway Project. Squatters are estimated at 40% of the city's population, and another 20% live in substandard housing. Unemployment, which is 7-8% nationally, is as high as 30% among urban teenagers. Migration into the city is estimated at 11 - 16,000 annually in spite of the unemployment situation. Sewerage projects have been given low priority by the Economic Planning Unit (EPU), but WHO feels the subject important enough to sponsor a study in 1972/73. These and other problems present possible areas for future Bank activity affecting the development of Kuala Lumpur, and the Urban Federal Highway Project should be considered the first of several projects for the city.

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15. In the urban transport sector, intra-city traffic in Kuala Lumpur presents a problem in that facilities will have to be improved to handle traffic growth anticipated in the next 20 years. This problem will be particularly acute in the area of the Chinese Assembly Hall intersection at the Kuala Lumpur end of the project, and the Bank is preparing to include a piggy-back study in the current loan operation for solution of the problem. The study should yield another project which the Bank might wish to finance in FY 1975.

16. The Urban Federal Highway Project will be the first loan to Malaysia in both the urban and the highway sectors. As such it is likely to set precedents, and the Urban Projects Division is working with the Transportation Projects Department to develop a consistent Bank position on terms and conditions of lending. In particular, preliminary indications show a need for changes in the organization, staffing, and procedures of the Public Works Department (PWD); and the appraisal mission will examine this matter in greater detail.

17. Finally, the distribution of direct benefits from the Urban Federal Highway Project is not altogether clear. On the one hand, the highway improvement will cater to relatively affluent automobile owners who travel within Petaling Jaya or commute to and from Kuala Lumpur. The automobile ownership rate is 4.4 per 100 and is expected to double by 1990. On the other hand, the project includes motorcycle lanes which will be used extensively by reverse commuters coming from Kuala Lumpur to factory jobs in Petaling Jaya. Motorcycles (largely low-powered ones) make up 22% of today's traffic on the highway. Benefits to commercial traffic and public transport users may be less precisely defined, and issues of benefit distribution will be examined in greater detail during the forthcoming appraisal mission.

cc: Messrs. Goodman, Fontein, Sandberg, Jentgen, Amin-Arsala, Baum, Ripman, Engelmann, Lee, Kirmani, Bohr, Iverson, Dunkerley, Elkouby, Strombom, Yenny, Hara, Woodford

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