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CHAPTER 1

MANUFACTURING INDUSTRY

A. The Structure of Manufacturing Industry

1. Although even moderately reliable statistics are not available for manufacturing as a whole, it is now possible to go beyond a mere accounting of the production of principal state enterprises and make some general observations about the role of manufacturing in the economy, the structure of manufacturing industry, and developments since 1965.

2. Recent national income estimates suggest that value added in manufacturing accounted for 8 to 9 percent of the Gross Domestic Product throughout the 1960s. The data on which these estimates of value added in manufacturing are based are unfortunately far from reliable.

3. The most recent manufacturing statistics of any consistency and reliability are still those based on a survey of some 80 percent of medium and large establishments in 1963. These are shown in Table 1.1. Figures collected by the Central Bureau of Statistics suggest that in large establishments manufacturing output fell from this 1963 level to a trough in 1965-66, and this was apparently also the case in medium establishments.^{1/} For most manufacturing industries recovery apparently began in 1967, and accelerated towards the middle of 1968.^{2/} By mid-1969 industrial production had on the whole reached 1963 levels, and by mid-1970 it had in general exceeded them, though some industries were still lagging. The principal industries which have not recovered their 1963 production levels are those based on primary processing such as coconut oil manufacture where raw material supplies and transport facilities are still inadequate.

4. The most spirited improvement during 1969-70 has been in textiles. Government textile plants, mainly concentrated in spinning, went from some 60 percent to 80 percent capacity production during this period, ^{3/} and there was a significant expansion in every branch of the privately owned textile industry, that is in weaving and finishing, knitting and garments. The Department of Industry estimates that domestic woven cloth output reached some 450 million meters in 1969-70, with an acceleration of production in the second half of 1969 which has continued in 1970. This would raise 1970-71 production above the 1969 level, although it may be doubted whether the target of 575 million meters set for that year by the Five-Year Plan can be reached.

^{1/} Unpublished Central Bureau of Statistics worksheets.

^{2/} Unpublished Central Bureau of Statistics worksheets for 1967 and 1968 cover medium and large establishments but they are unfortunately quite unreliable because the number of enterprises covered varies greatly between the two years, and from previous years.

^{3/} See Table 3.2 and W. Boucherie, "The Textile Industry", Bulletin of Indonesian Economic Studies, Vol. V, No. 3, November 1969, for an account of the textile industry up to 1969, and Table 1.2.

5. Production also began to rise above 1963 levels in 1969 in other privately owned (and still minor) industries, with a relatively small total output and employment. These were mainly rubber footwear, plastic articles, paints, glass containers and tumblers, processed foods, electrical and electronic consumer durable goods, and pharmaceutical packaging. 1/ Output in these industries has grown during 1970, and during the year there has also been an encouraging improvement in the output of a number of other industries, some private and some government enterprises (Table 1.3). An informal survey of Djakarta market indicated that the variety of locally produced consumer goods has grown during 1969-1970.

6. Although small enterprises also appear to have contributed to the growth of production, very little information is available about them. The latest available figures for small establishments relate to 1963, and they are very limited in scope and reliability. In 1961 a one percent sample survey of population estimated that there was a total of 1,856,152 persons employed in "industry". 2/ This was almost double the 1 million employed in medium- and large-scale establishments in 1963, but most of these small establishments are spare-time domestic rather than cottage industries, and cannot be regarded as "industrial" in any meaningful sense. It is unlikely that output in the small establishments has fluctuated to the same degree as in the medium and large establishments because they do not add a great deal of traded industrial output and are less dependent on imported materials, although they play an important role in the subsistence and near subsistence economy of the countryside.

7. 1968-69 saw a number of business failures and "disappearances", and this would imply that increased output was obtained from a significant improvement of capacity utilization in remaining establishments (see Table 1.3). Although investment trends are encouraging, 3/ few of the plants planned and under construction by new foreign investment have as yet been brought into operation (Table 1.4), and most of the expansion of production has been by existing domestic enterprises. The 1963 structure of industry may therefore be taken as fairly representative of the current situation. Employment moreover has probably fluctuated far less than output since 1963, particularly in state enterprises, but also in many private enterprises, partly because of the labor law requirements, 4/ and the 1963

1/ These are inadequately reflected in Table 1.2. However, imports of raw materials for these industries rose from \$238 million in 1967, to \$258 million in 1968 and \$320 million in 1969.

2/ Republic of Indonesia, Population Census 1961, extended 1 percent sample. Preliminary Figures, (Djakarta, 17 December 1963), Table 8, p. 32.

3/ Imports of capital goods, which of course also had other uses, rose substantially from \$179 million in 1967, to \$198 million in 1968 and to \$238 million in 1969.

4/ See paragraph 42.

data can therefore be taken as a fairly reliable indicator of the current employment situation.

8. Food manufacturing was clearly the most important manufacturing activity in its contribution both to employment and to value added (Table 1.1). Most food processing industries are small-scale and unsophisticated operations in products such as rice, flour, noodles and other flour products, pickles and fish sauces. Rice milling is generally large scale, although some 80 percent of rice is still hand pounded. Sugar, and to a lesser extent vegetable oil production, are the only other significant large scale food processing activities. Rubber processing is another important primary processing activity, second only to food in contribution to value added, and new crumb rubber factories are now coming into production, but these for the most part represent modernized rather than expanded output. Textiles came next to food in terms of employment although total employment is probably exaggerated in relation to other industries. ^{1/} The relative importance of textiles reflects the very small role played in manufacturing by other consumer goods, and by producer goods industries. Tobacco processing is the only other sizable activity; other significant sectors are cement, tires, furniture, fertilizers and building materials such as bricks, tiles and ceramics. Most of these, specifically if produced by numerous medium or small size establishments, are under-reported in the available statistics, giving the misleading impression of lack of industrial diversification. Indonesian manufacturing does not lack in variety, but output levels are generally low and quality is frequently poor, particularly in producer goods industries. Thus there is still no satisfactory hoe production. Metal working is now beginning to develop as can be seen from production figures on pipes, wire, iron sheets and sprayers; machinery and vehicle assembly is growing rapidly, but lack of foundries is a bottleneck. Maintenance and repair of machinery and vehicle is largely dependent on imported components.

9. There are few large manufacturing establishments in Indonesia. ^{2/} Recent additions to the equipment of textile weavers and finishers have tended to consolidate trends towards the growth of some relatively large producers with 400 or 500 looms, but such producers are still far from typical. In other industries the scale of operations tends to be even smaller. Firms are predominantly family owned, limited in equity and financial resources, and in managerial and financial skills. Years of inflation eroded the small capital base.

^{1/} Boucherie, op. cit.

^{2/} <u>Number of Workers</u>	<u>Percent of Work Force Employed</u>
10-49	86.0
50-99	7.8
100 and over	6.2

Source: Biro Pusat Statistik (Bureau of Statistics), Pandapatan Nasional Indonesia Menurur Lapangan Usaha, (Djakarta, 1967).

10. The difficulties of the early 1960s lowered the operational efficiency of the majority of Indonesian enterprises below levels indicated by the 1963 figures. Technological obsolescence and poor management in all stages of production and marketing are still typical of most domestic industrial enterprises and this is particularly true of the large units taken over by the State since the late 1950s. The majority of rice mills and sugar mills, for example, were established in the first quarter of the twentieth century and most have seen little or no improvement in their equipment in the last twenty years. ^{1/} Those few rice mills which have new equipment use it so inefficiently that most produce 80 percent broken.

11. Under the pre-1966 economic order the government emphasized industrial development through public sector enterprises, and also nationalized most foreign industrial operations. A great deal of the new equipment installed in these state enterprises in the late 1950s and early 1960s took years to come into operation, and in some cases has not done so yet. Although the past year's success in increasing production has been quite remarkable, particularly in spinning, it has not been reflected in all government plants. Some are still operating below rated capacity primarily because of poor management, although in some cases also because equipment is incomplete or inappropriate. A great deal of the new equipment installed in state enterprises has thus scarcely begun to be depreciated although it is now, sometimes some 10 years after purchase, becoming obsolete technologically.

12. In privately owned enterprises the situation is rather better. Firstly, management is more competent, and this has meant a much higher utilization of equipment. Plant and equipment generally has been selected and constructed much more economically so that capital/output ratios are much lower. For example, state enterprises tended to use steel, concrete and galvanized iron construction where the private entrepreneur mostly used brick, Kalimantan timbers and tiles. It is true that much of the private enterprise plant is also old, but it is related to factor costs in Indonesia, and used accordingly. Most of the private enterprises are relatively unburdened by overheads. State enterprises tend to be more liberal regarding housing, transport and welfare facilities.

13. The absence of infrastructure facilities contributes to high costs. The lack of reliable power supplies, compounded by an unrealistic system of industrial power charges, is still the most immediate problem, but plans and work to overcome this difficulty are in train. Although the urban transport facilities of Djakarta have been somewhat improved in the last year, they are still far from adequate, and many manufacturing firms provide transport for their workers to ensure their arrival in time. Long distance transport facilities both overland as between Islands are

^{1/} Of the 55 sugar factories in existence in 1963, 48 had been erected before 1914, 5 between 1914 and 1929, and 2 between 1942 and 1963. Nugroho, Indonesia, Facts and Figures, 1967, p. 277.

not always reliable and in most cases costly. This causes difficulties in obtaining indigenous raw material and supplies and increases their costs, which in turn may hamper the full use of existing manufacturing capacity, specially away from main trading centers. The lack of tele-phones and poor service in many areas hamper manufacturers' activities.

14. Most manufacturing establishments, and an even higher proportion of workers employed in manufacturing, are in Java. Djakarta is the largest industrial center, but manufacturing establishments are fairly evenly distributed among West Java, Central Java and East Java, although these regions show considerable specialization by industry group. There are some manufacturing establishments in North and South Sumatra and in South Sulawesi, but in other areas manufacturing activity is negligible. Manufacturing activity outside Java is only significant in wood and rubber products (Table 1.5).

15. It is extremely difficult to estimate the proportion of industrial output and value-added contributed by Central Government owned manufacturing enterprises. In a few industries, notably fertilizer, cement, oxygen, paper and spinning, state enterprises dominate production; in some such as salt and matches they make an important contribution to total production; in others such as metal working they represent a significant part of total existing capacity although they do not dominate industrial output in the sector.

16. In terms of employment, although they account for most of the largest plants, 1/ the contribution of Central Government manufacturing enterprises does not appear to be very large. Spinning, probably the most important state employer of labor, accounted for less than 10 percent of labor in medium- and large-scale textile establishments, 2/ and the weaving sector is predominantly privately owned. Taking into account Central Government enterprise employment in the other sectors as well, it seems unlikely that state enterprises accounted for more than 15 percent of the workers recorded in 1963; the proportion is likely to be even less in 1969 because of the return of some of these enterprises to private hands and the growth of the privately owned industries outlined in paragraph 5. The contribution to value added is somewhat higher because of the relatively large scale and capital intensive Central Government fertilizer, cement and spinning plants. On the other hand, employees in state enterprises are less fully employed than those in private enterprise so that value added per head in the private sector is much higher than in the public sector. The

1/ The PUSRI fertilizer factory (1,474), the Gresek (1,627), and Padang (1,153) cement factories, and Letjes paper factory (1,133) are among the largest factories in Indonesia.

2/ In 1960, the proportion was 8 percent of total textile employment; Central Bureau of Statistics, Djakarta, Perusahaan² Industri Besar, 1960, pp. 94-112 and 1965/66 figures for medium and large establishments indicate figures of 8 to 9 percent.

Central Government enterprises' contribution to total value added in manufacturing is therefore probably similar to that of employment, that is, about 15 percent of the total value added of medium and large establishments. It is not possible to make meaningful estimates of the contribution made to total employment by provincial and municipal government owned enterprises, but it is marginal.

B. The Policy and Administrative Framework

17. Manufacturing industry in Indonesia was thus relatively little developed by the early 1960s, and the post 1968 recovery has left it small scale, for the most part technologically obsolescent, undercapitalized, inadequately managed, and without an adequate supporting infrastructure. The rate at which new foreign investment has been coming into production has thus far been slow, and therefore it is only beginning to affect the pace or nature of industrial development.

18. Indonesia has also inherited a highly protective and paternalistic policy framework towards industry which had led to extremely inefficient and uncompetitive production in the 1950s and early 1960s; it is now engaged in the process of dismantling this framework, and replacing it by one more conducive to efficient and low cost, as well as vigorous, industrial growth.

a) The Tariff and Quantitative Import Restrictions

19. The current structure of the tariff, together with customs regulations and administration, and the sales tax structure, present formidable obstacles to efficient industrial development. A recent study made for the Government's consideration 1/ contains an analysis of the present tariff structure which will be briefly reviewed here. Many Indonesian manufacturing industries are heavily protected by high tariffs on imported goods, although in practice, for highly protected consumer goods, the protection is usually much less in reality than the rates would suggest so that the local manufacturers are exposed to substantial international competition. Unrecorded imports 2/ of many nondurable consumer goods and many other articles can be observed. Textiles are the most important group of products, with estimates of the share of unrecorded imports in the total market supply ranging from 25 to 40 percent.

1/ R.N. Cooper and L.J. White, "Some Proposals Regarding Indonesia's Tariff System, "Harvard Advisory Group, August 1970.

2/ This is mostly "technical" smuggling, that is, the misrepresentation of goods through the customs system or the shipment of goods in vessels which bypass customs altogether. In addition there is some "physical" smuggling into North Sumatra from Malaysia and Singapore and to Sulawesi from the Philippines.

20. International competition in most cases is a stimulus, rather than a barrier to industrial progress, and it is notable that in Indonesia some efficient enterprises are able to compete with imports without the protection of import duties. However, in general the deficiencies in infrastructure, the lack of economies of scale, and difficulties due to the structure of the import tariff and the nature of customs collections, tend to work to the disadvantage of domestic industries. In some cases present duties on imported inputs are significantly higher than duties on finished products. The problems are sometimes further compounded by the supply of unrecorded import goods to the market, which not only evade customs but also sales taxes; the latter, however, apply to domestic products.

21. Customs administration is a source of high costs. The low salaries of customs officials join with the incongruities of the tariff structure in encouraging widespread venality, and while this may lower the manufacturers' input costs, it engages a great deal of his time and attention. The inefficiency of customs clearance and the resultant delays in movement through the port stems in part at least from inappropriate customs regulations. For example, customs officials are required to take a sample out of each bale or crate imported to ensure that goods conform to the import documents. Once crates and bales are breached their contents are liable to spoilage, and pilfering becomes tempting. The sampling itself lacks common sense where for example applied to investment goods. Import documentation is cumbersome and leads to many delays.

22. The incidence of sales taxes is unduly high; not only are the rates themselves high but they are cumulative, being levied at all stages of production and rates on imports are in some instances not the same as on locally produced goods.

23. Both tariffs and sales taxes have been subject to frequent changes which disrupt the relationships among them, leading to new cost ratios. 1/ The frequency of changes in addition to the complexity and lack of rationality in tariffs and sales taxes contributes to the difficulty of enforcement, encouraging evasion at all stages.

24. Import bans have played an important role in Indonesia's protective system in the past. After 1966 almost no use was made of this device, but a recent trend in this direction gives cause for concern. Table 1.6 indicates the imposition of bans since the banning of import of fully assembled motor vehicles in January 1969. Import bans have generally followed local production, and while there has been thought to safeguard consumers by the insistence that quality and price match imports, and that production is sufficient to meet market demands, it is doubtful whether such stipulations can be enforced. In some cases manufacturers coming into production

1/ Surcharges may be used to alter tariffs by administrative regulation.

have been granted tariff increases rather than import bans. More import bans have been proposed, and pressure for such action is likely to increase as more investors come into production.

25. Tariff problems must of course be viewed in the context of Indonesia's trade with the rest of the world, and particularly with developed countries. Many of the latter also have high tariff structures which, moreover, discriminate particularly against first stage processed primary products, such as leather, in which Indonesia would seem to have a comparative advantage. Many developed countries exercise quantitative import restrictions on products such as garments in which Indonesia would also appear to have a considerable potential comparative advantage.

b) Corporate Taxes

26. A revision of the corporate tax structure during 1970 reduced corporate taxes to a maximum of 45 percent, thus giving substantial relief from rates which had ranged from 20 to 60 percent. Recent legislation also included provision for the revaluation of assets, a very important consideration in the light of past inflation. This has, however, been accompanied by a 20-percent tax on the increased capital value which puts a heavy cost on revaluation. The system of tax collection is not very effectual. Taxation officials do not necessarily apply the rates provided by law, and there is ample room for the settling of taxation collections by way of negotiation with tax officials. The Government's collection of corporate taxes is small, and the manufacturers are subject to a high degree of uncertainty in calculating their after tax profits.

c) Investment Incentives

27. The Government has sought to stimulate foreign and domestic investment in manufacturing since January 1967 by taxation incentives, and it has had considerable success in doing so. There has been substantial foreign and domestic investment interest as Table 1.4 indicates, and the bulk of actual foreign investment expenditure (aside from that in petroleum) has gone into manufacturing industry. 1/

28. Taxation incentives are of two types: firstly, firms may be granted exemption from income tax for up to six years, and this is accompanied by carry-forward loss provisions and accelerated depreciation; secondly, firms are eligible for exemptions from import duties on capital equipment, and in some cases, on raw materials. There has now been some experience in operating this incentive system, as is clear from the numbers of approvals. Incentives are, however, only part of the process of starting new productive enterprises, and several problems of implementing projects can be identified.

1/ See Main Report, Vol. I, Statistical Appendix 10.2.

29. The first is the time it takes firms given incentives to come into production. Statistics of the implementation of approved investment have not been collected on a regular basis, but Table 1.4 gives a fairly accurate indication of the situation. Of the 146 foreign manufacturing investments approved, 37 were in production. Eight of these plants were those returned to their former owners, so that 29 new firms had come into production by September 1970. There are many reasons for the relatively slow implementation of foreign investment approvals. Confidence in the Indonesian Government has grown slowly. Investors found the problems of company formation difficult, and land acquisition took a minimum of six months, and frequently much longer. One large firm, typically, spent a year searching for and acquiring a site, and then found that the land which it thought it had acquired by purchase was in fact partly owned by another owner. The firm then had to engage in lengthy negotiations to gain access to its own block. Customs difficulties have delayed the import of equipment. Firms had to engage in prolonged negotiations with a number of government departments from the time they lodged a Letter of Intent for incentive concessions to the time they come into production, and continue to do so. Frequently changes in regulations, to which local manufacturers have become accustomed, irritate newcomers and impede their progress.

30. The second group of problems arises out of the system itself. The initial need for speed and flexibility in granting incentives has led to ad hoc procedures which may no longer be appropriate. There has been some lack of coordination between the granting of concessions to local and foreign investors, which could give rise to foreign firms being granted incentives which could damage existing local producers already engaged in an industry. Local producers, moreover, do not necessarily always obtain the same incentives as foreigners. The ad hoc approach, lacking appropriate staff work in project evaluation, has serious setbacks when the right balance between a complex tariff structure and a set of tax incentives is to be achieved. In one or two cases firms which could have very high production costs, considerably above world prices, have been promised a monopoly of Indonesian production. In other cases late-coming firms have not been granted incentives although there is no a priori reason to suppose that they would be less productive and efficient than firms granted incentives. Many problems have been associated with temporary raw material duty exemptions. In some industries a proliferation of production has been encouraged by high tariffs and incentives.

31. The Ministry of Industry, through its licensing controls, regulates entry into manufacturing industry, and its approach has been paternal and restrictive in an effort to protect existing producers. The Directorate of Light Industry in the Ministry of Industry has issued a list of industries closed to foreign investment (Table 1.7), and these industries are, in effect, often also closed to domestic investment. Some of the other Directorates have been similarly restrictive, although less formally so. There is also a general tendency to allow or persuade only one firm to locate in each producing area. While the development of industry outside of Djakarta and Surabaya is of course desirable, the artificial breaking up of the

potential external economies of scale in these cities is not, and the policy also leads to the strengthening of local monopolies.

32. The current situation is therefore one where limited numbers of firms have been granted incentives in industries in which protective tariffs, admittedly in many cases notional, are high, so that opportunities for inefficiency and for the exploitation of monopoly profits exist. Firms in this situation are not pressed by economic circumstances to increase production to full capacity.

d) Government Enterprises and Retarded Projects

33. Until recently Government policy toward industry was largely concerned with the rehabilitation of existing state enterprises, and the success of this preoccupation is now reflected in the growth of output of the principal state enterprises. The process of rehabilitation has been largely completed, and the rehabilitated state enterprises are now at a point where they can be transformed into statutory corporations or offered for joint ventures with private investors, as government policy envisages. Only a handful are to remain under the direct control and direction of the Ministry of Industry. It now only remains to expedite the process.

34. Various Ministry of Industry Directorates, however, are still engaged in attempts to revise or in some cases restore and initiate state enterprises and projects which had little or no economic rationale from their inception, and which can only be carried on at continued loss to the economy. The Ministry's desire to carry on with these projects stems from a wish to protect existing investment and employment, and to increase the sophistication of the Indonesian industrial structure, but where investment can be obtained from private enterprise, or where economic returns are doubtful, caution would appear to be appropriate.

e) Capital

35. The industrial sector has been faced for some time by a serious shortage of credit and high credit costs. Under the monetary constraints which the Government maintained for the purpose of stabilization, credit expansion had to be limited and could only be made available to uses which were given high priority. Substantial parts of credit went for the financing of foodgrain supplies and stocks and to the export sector. Within the amounts available to the industrial sector a large part was used for the sugar industry and for textile manufacturers. The high deposit rates which the state banks began to offer in October 1968 made it possible to begin, in April 1969, with a medium-term credit program in which these banks participated with own funds. Long-term financing does at present not exist in Indonesia, except small amounts of supplier's credits. The lack of credit was also an important cause of low capacity operation for many of these enterprises. Short-term credit is available to medium- and large-scale firms at 2-1/2 to 4 percent per month, generally in the upper reaches of this range. The medium-term credit program has, in spite of difficulties yet to be overcome, played a significant role in financing.

However, while credit availability has been marked improvement during the past year, further acceleration in industrial activity would probably meet a considerable constraint in the lack of short-term as well as medium- and long-term credit. BAPINDO was originally conceived as the main institution for the purposes of industrial investment financing. Under the medium term credit program two other state banks were assigned for lending to this sector. In order to make BAPINDO into a more efficient channel for medium and long term credit, a reorganization of its operations and management is now in progress. The restructuring of its financial basis and management require considerable and time-consuming efforts, involving the complete audit of past operations, the evaluation of the loan portfolio and the acquisition of foreign management assistance.

36. Besides efforts to reorganize BAPINDO, there are actions on the way to create at least one and perhaps two new industrial finance companies. One is aiming at the establishment of a multi-national corporation in which foreign financing institutions would participate, the other an entirely privately-owned finance corporation with substantial Indonesian participation. There is no doubt that there will be room for each of these to operate at sufficient scale in Indonesia, given the variety of private investment projects and their expected future level of financial requirements.

f) Land Availability

37. Existing land ownership and land lease laws and regulations are so complex that it is extremely difficult for new entrants into industry, or for expansion projects, to acquire industrial land for purchase or lease. For foreign investors, even when engaged in joint enterprises with local investors, 1/ the acquisition of industrial land is frequently the most serious obstacle to rapid implementation of investment decisions. In Djakarta most new industries are being established south of the city along the main road to Bogor, in line with the municipality's zoning plans. It is not certain that this is the best location for industry, and at present it tends to overburden the Djakarta-Bogor highway. Even in the assigned area there are problems in finding the owners of the land and in establishing proper legal arrangements for its use.

38. The government is taking steps to establish a national industrial estate development agency, and this is to be followed immediately by the establishment of the first estates. There appears to be room for industrial estates of various types, ranging from those for a mix of large and small factories to mini-estates encompassing flatted factories, 2/ and government as well as private and mixed development, would appear to be appropriate.

1/ Land ownership is confined to Indonesian nations.

2/ Flatted factories are buildings in which producers, ranging from very small-scale manufacturers to foreign export overseas assemblers can rent space. As they cater for labor intensive industries they are best situated in the midst of the labor supply.

39. The establishment of industrial estates would not, however, obviate the need for inclusion of provisions in the land law which are more suitable for industrial land use. Some factories may wish to, or have to, locate outside areas served by estates, and the problem of land also arises in relation to auxiliary services and other industries, such as tourism. Currently an acute house and apartment shortage in Djakarta has led to a situation in which families of business executives working in Djakarta live abroad with a concomitant loss of income and employment opportunities for Djakarta. This also makes foreign management more difficult and more expensive to obtain.

g) Company Law

40. The existing Commercial Code which governs company law is not geared to modern industrial conditions. The Code has now been in the process of being re-drafted for some time, and the most important revision, the principle of one-share-one-vote, has been introduced in Parliament. ^{1/} Some further reforms, of less immediate importance, can be expected.

41. Foreign investors engaging in joint ventures have overcome the law's deficiencies at considerable expense and frequently with delay in carrying out their plans for drawing up separate articles of agreement tying voting rights to share-holding. The resulting fragmentation of legal provisions and their lack of support from approved legislation is detrimental to the respect and confidence by investors in Indonesia's legislation.

h) Labor Laws and Conditions

42. The complex of existing labor laws, although protecting employed workers, at the same time does not encourage new employment. The most important problem is connected with the employers' inability to dismiss workers, either individually for lack of application or misconduct, or in groups because of lack of business. The former is in practice almost impossible, even if serious misconduct such as theft is proven; the latter is equally difficult, and it is expensive because of heavy severance pay provisions.

43. Pay scales and methods of payment reflect the effects of past inflationary conditions. Graduations of pay scales are small and not always adequate to reward the highly skilled, competent or hardworking. There still exist remnants of wage payments partly in kind, tied to family

^{1/} Under the old provisions shareholders' voting rights were not aligned to share ownership. Company voting took place at company meetings, with a maximum of six votes per shareholders. If the votes cast were equal, the decision was made by lot. The new "one share one vote" neared the conclusion of its passage through Parliament as this Report was being written.

size, making for complex bookkeeping as well as deterring the linking of wages to a workman's productivity. Bonus payments are usually paid according to plant, not individual performance. The law limits working hours to 40, with high extra rates for overtime. Penalty wage rates for public holidays worked and annual holiday pensions are very generous. A complex system of sick leave, difficult to interpret and administer, is more generous than is usual even in highly industrialized countries. In a misguided effort to protect women employees, the labor legislation almost completely excludes them from employment opportunities by granting three months with full pay maternity leave and other special allowances. 1/

44. Designed to protect workers' living standards during inflation these legal provisions now stand in the way of increasing efficiency in existing enterprises and, therefore, may hinder long term employment growth. Individual plants may at present evade the law by hiring workers "temporarily" for three months, dismissing them and re-hiring them, and some special "clean" wage agreements have been negotiated by foreign firms to obviate the payment of wages in kind. Also small, privately owned factories are usually able to evade the labor laws altogether. But such measures are inefficient and not always appropriate. 2/ They do not, moreover, solve the problems the labor laws create. The labor laws encourage the use of capital equipment rather than labor, and may preclude the attraction of labor intensive industries to Indonesia in spite of low daily wage rates for unskilled labor. 3/ There is widespread competition for "footloose" industries such as electronic component assembly and garment manufacture for export; foreign firms may at present be inclined to establish such industries in countries other than Indonesia, thus reducing export earnings and employment in Indonesia.

45. A movement of labor into new industrial projects where opportunities for productivity and earnings is higher than in traditional plants is now taking place, and a review of the labor code could be followed by increased earnings without raising labor costs. This Mission does not

1/ Division of Foreign Relations, Bureau for Relations and Information, Department for Manpower, Compilation of Labor Acts and Ratified Conventions. (no date).

2/ The Ministry of Manpower recently intervened in the dismissal for inefficiency of an expatriate worker under personal contract to a foreign-owned company.

3/ Wage statistics are not available, but in September 1970 small privately owned factories were paying unskilled workers 150 to 200 rupiahs a day, while skilled workers earned 400 to 800 rupiahs a day. (These payments include payments for rice, etc.) Such workers had few fringe benefits, in fact, mainly a month's pay at Lebaran. State enterprises and new firms with foreign investment paid higher rates, and there were some high wages for skilled tradesmen, such as electricians, in scarce supply.

wish to suggest in any way that the revision of labor legislation should seek to depress existing earnings. On the contrary, it is envisaged that by linking earnings to an individual worker's productivity, productivity and hence earnings could rise, and at the same time faster growth of employment could be achieved.

i) The Role of Foreign Investment in Indonesian Industrial Development

46. Indonesia has been successful in attracting foreign investment in manufacturing, and while many difficulties remain in ensuring that such manufacturers come into production quickly, the potential advantages of direct foreign investment are already evident. A high proportion of foreign firms have invested in joint ventures, and this has engaged Indonesian firms in greatly expanded business opportunities. Foreign investors have injected capital and management into the economy, and they have raised labor skills. It is understood that at present, with a small industrial sector and a relatively limited flow of new investment, foreign investment in manufacturing may appear to pose some threats both in balance of payments terms and in relation to domestic investors. But foreign firms will only become a burden on the balance of payments if they are permitted and encouraged to produce at high cost by a highly protective system. If manufacturing firms are not given undue protection, the foreign firms' Indonesian production will be foreign exchange saving, even when imported raw materials must be used. With vigorous, competitive industrial growth, foreign firms can export manufactured products, making a substantial contribution to export earnings. The possible threats to domestic enterprise should, however, not be under-rated and it is therefore essential that proper analysis of markets and supplies is made with every foreign investment application which is intended to cater for a protected domestic market. This cannot be done by way of general rules applied in a bureaucratic manner, but requires skillful research and a vastly improved statistical reference. Neither is it sufficient to give local investors the same incentives as foreign investors. Local investors may have less access to reasonably priced credit, and require substantially more by way of technical and managerial assistance. Arrangements to make them available are essential and should be considered carefully, so that local investors will be able to take up the opportunities which will open up directly or indirectly as a result of the inflow of foreign capital.

47. Foreign investment can thus be an essential catalyst to rapid industrial growth. It has been highly successful in accelerating industrial development in developed countries as well as in many developing countries, and providing it is not protected by high tariffs it can make a substantial contribution in Indonesia to domestic production, to production for export, and to the promotion of domestic investment and employment.

C. Policies for Industrial Growth

48. Having so successfully stabilized its economy, Indonesia urgently requires the rapid and sustained growth of its industrial employment and output. The past year has seen a considerable increase in the production

of existing manufacturing industries, including some state enterprises, to which output of new industries is now beginning to add, but given the low base from which growth started, the achievements so far are only small in comparison to need or potential. Continuing unemployment with its accompanying impoverishment, underlines the extreme urgency of speeding industrial development, but bureaucratic obstacles, and paternalistic protective economic policies still hamper rapid development of an efficient manufacturing base.

49. Current industrialization strategy, as embodied in the restrictive licensing policies of the Ministry of Industry and the recent highly protectionist import bans of the Ministry of Trade, is creating a climate of excessive protection, both internal and external, for manufacturing firms. The experience of developing countries which have followed such policies suggests that they lead to poor quality production and high prices. These in turn burden not only consumers but all producers who use domestically produced materials and equipment as inputs; they militate against exports by making the material costs of domestic products higher than those of their competitors abroad. High prices mean limited local markets because consumers cannot afford to buy the quantity of goods they would purchase if prices were at international, competitive levels, and this means that local production cannot grow rapidly. If production remains geared to relatively small, high income urban markets, backward integration is not economic because raw material and component production generally require larger-scale production to be economic.

50. The major areas where revisions of existing policies and procedures and required, or new measures need to be taken, range over the entire gamut of issues affecting both foreign and domestic enterprises. They pertain to the framework of taxes, protection and tax incentives; the legal framework both for labor relations and for corporate operations; the channeling of medium and long term capital to efficient industrial users; the provision of infrastructure facilities and their improvement; the supply of technical and managerial services, and the creation of cost and general accounting services. Progress in each of these areas is a precondition for industrial growth and for the fullest possible use of what may be Indonesia's scarcest resource: entrepreneurial talent.

51. The principal policy changes and administration reforms required to accelerate the growth of manufacturing investment and output are outlined below.

a) The Customs Tariff and Quantitative Import Restrictions

52. The proposals for revision of the tariff structure, recently submitted to the Indonesian Government are a significant step in the right direction and should be adopted as early as possible. The essence of the proposals is:

- i) a uniform tariff of 30 percent on all finished consumer goods, defined as those for which less than one-third of

the wholesale value at international prices is added in Indonesia. Such a duty would provide a significant margin of protection against dumping and still be moderate enough to discourage smuggling;

- ii) a uniform tariff of 15 percent on most other goods, including capital goods, which provides modest encouragement to the production of intermediate and capital goods in Indonesia, and also serves the purpose of stimulating labor-using production techniques; 1/
- iii) a system of drawbacks of duties paid for exports;
- iv) a reform of the sales tax structure to make it equal in incidence on locally produced and imported goods, and less cumulative.

Quantitative restrictions would be withdrawn and new ones would not be introduced. Measures need to be taken to phase out specific tariffs granted to industries which cannot operate immediately without some shelter. Import duty exemptions would also be phased out, maybe over a period of 3-5 years. A single import duty at the level of perhaps 20 percent would ultimately be more desirable since it would provide a more modest and uniform incentive to all types of production and at the same time yield revenues. The sudden reduction of existing higher duties to this level, and an increase of duty-free or lower duty items to this level might, however, involve too drastic an adjustment initially.

b) Land and Infrastructure

53. The creation of industrial zones or estates to make land readily available for new investors would without changing the basic laws on land use and ownership, alleviate the present problems of land use in a major way. The existing difficulties appear to be not so much the type of legal arrangement for land use, but the delays caused by multiple ownership and a totally inadequate cadastral system which is not kept up-to-date with regard to existing titles. Administrative improvements in this area are urgent, as not all industries will be either willing or able to locate within the boundaries of an industrial zone.

54. Insufficient availability of infrastructure facilities like water and sewer connections, power, transport and telecommunications is a major cause of delays in the establishment of operating plants. The

1/ Manufacturers' competitiveness is determined by the percentage protection afforded their value added in production, not the protection on their final price. Cooper and White have demonstrated that the tariff structure proposed gives levels of effective protection of some 60 percent on domestic value added of 30 percent. Cooper and White op. cit. p. 33.

industrial estates which the Government now intends to create under a national industrial estate authority will in due course reduce these problems, if proper coordination of planning and execution between the various authorities in charge of these facilities and their construction can be achieved.

c) Investment Incentives and Promotion

55. Recently a number of changes were made in the Domestic and Foreign Investment laws. The most important are the restriction of tax holidays to industries which are officially recognized as priority industries; the provision of investment allowances to a total of 20 percent over four years for the expansion of existing industries and new non-priority investments; exemption, for all industries, from capital stamp duties; and the possibility to obtain exemption of payment of customs duties on capital goods if those cannot adequately be supplied from domestic sources. In general, this indicates a transition to a less liberal incentive system, in keeping with the desire of other Southeast Asian governments to reduce present competition in the incentives field.

56. At about the same time adjustments were made in the corporate income tax, reducing the marginal rate from 60 to 45 percent. Also, for priority industries, the possible tax holiday period is now brought up to six years, depending on size of investment, sector and location. Provisions for the carry-forward of losses have also been improved. Most of these changes have strengthened the incentives for long-term investments. A number of unresolved problems however remain:

- i) the determination of priority industries is not at all clear and at present it appears that priority status is only intended to be given to one, two or three firms in an industry in total, or by geographical area. It would appear that the publication of a list of priority industries, which would be revised at stated intervals, would be a more appropriate method of establishing priority status if it is to be used in the granting of incentives;
- ii) the current incentive structure tends to lower the relative cost of investment in equipment to the cost of labor. The continuation of the practice of granting customs duty exemptions on capital goods, and the introduction of the investment allowance are clear examples. The first is also counter to the present plans for the introduction of a new customs tariff system;
- iii) reduction of corporate tax liabilities through investment allowances and tax holidays may have the disadvantage that industries still have to pay taxes to the government of their country of origin, if their tax rates exceed those applicable in Indonesia. As the Government has not as yet negotiated

agreements on the avoidance of double taxation, with particular attention to tax 'sparing' ^{1/} with the governments of investing firms, the benefits of reduced tax liabilities for foreign firms may be an illusion. Tax revenues may not be transferred from the Indonesian Government to those firms, but to their governments;

- iv) under the present system there is no guarantee as to the equitable provision of incentives. Early entrants may be allowed more than latecomers, foreign investors may be able to get better conditions than domestic applicants. The Government is making an effort now to centralize the decision making process and to improve the staff work which is essential for proper consideration of new proposals and the determination of required incentives;
- v) the system of decision-making by an interdepartmental committee is not workable. Different industries have different and sometimes conflicting interests, and it hampers the establishment of adequate coherence between staff analysis, promotional activity and decisions on new investment proposals.

57. The establishment of an Industrial Promotion Board, combining the essentially negotiating and informational functions of the present Investment Board and the decision making authority of the relevant Ministries with the promotion functions of the proposed Investment Promotion Center, is essential to a more rapid and regular processing of investment applications, and could lead to that speeding up of the investment process which would bring a rapidly growing number of firms into production within a reasonable time of their initial interest. Such a speeding up is crucial to accelerated industrial growth and particularly to a rapid increase in employment.

58. The function of the Board would be to administer, with decision-making authority, the provisions of the domestic and foreign investment laws, and to assist local and foreign investors to come into production. The creation of a capable and centralized promotion team to assist investors is, particularly in the case of foreign investors, one of the powerful incentives to investment, that the government can command.

59. The Industrial Promotion Board should be an independent organization, outside the ordinary civil service. It should be headed by a Chairman who would have the status of a Cabinet Minister. He should be advised by three or four Board members of senior status, representative of business as well as government, on the conduct of the Board. The Chairman and the Board's staff should be remunerated in accordance with their responsibilities and position in negotiating with large private investors, and they should not

^{1/} Tax "sparing" is the consideration by the tax authorities in the investing country of the tax saved by exemption in the host country as paid.

hold other positions or receive other emoluments. In deciding on investment incentive applications the Board should be advised by an Advisory Committee on which various government departments and agencies, including the Ministries of Finance, Industries, Agriculture and Mining, should be represented. The recommendations of the Committee would carry substantial weight, but the decision making function would be clearly within the Industrial Promotion Board itself, subject, in appropriate instances, to the authority of the President.

60. The Board should initially have three departments:

- i) a promotion and implementation department to assist investors in the preliminary stages of application and speed their papers through to approval. This department should be responsible for liaison with relevant government departments, municipalities and regional governments to ensure that investors can come into production quickly. While particular attention should be given to foreign investors who are not familiar with Indonesia, domestic entrepreneurs should receive similar attention and services. The investment banking departments of local banks could be used to channel local applications for investment incentives. Foreign and local entrepreneurs would be assisted to come together in joint ventures;
- ii) a project evaluation department would streamline and simplify the incentive application procedure for routine manufacturing industry applications. Special divisions would be established within this department to handle large scale projects, particularly in extractive industries with special attention to legal questions. This department would advise the Chairman who would then submit recommendations to the Advisory Committee, and after appropriate consideration of its views, submit his recommendations to the President in whose office the power to grant incentives resides.

Other departments would be added as the need arises. They would include:

- i) a research and statistical department to follow up the experience of new investors and begin the collection of accurate data on industry on the basis of reporting by firms which have been granted incentives. Such information could be used for new project initiation at a later stage of industrial development;
- ii) an export promotion department to actively promote investment in export-oriented industries;
- iii) a small industries advisory department to assist domestic manufacturers with managerial, technical and marketing problems and to assist them in obtaining special credit

facilities. Some of these activities should be organized in close coordination with the existing regional development banks which have been inactive for many years but could be made into useful instruments for assisting private investors not only financially but also in the technical and management fields.

d) Investment Finance

61. The absence of a well-developed banking system with the ensuing shortage of credit remains a serious constraint on the development of manufacturing. Proposals for a satisfactory expansion of banking relate to the economy as a whole and therefore lie outside the scope of this Chapter, but it must again be stressed that without such measures the growth of local manufacturing firms will remain limited. Action which should be taken includes:

- i) a speedy reorganization of BAPINDO to make it an effective instrument for financing of small- and medium-size enterprises;
- ii) establishment of a privately-controlled development bank financed jointly by local and foreign business interests and international agencies, aimed at financing large scale projects;
- iii) strengthening of existing private banks by encouraging them to merge and increase their capitalization and by making available to them the same Central Banking rediscount and other facilities as are available to the State commercial banks;
- iv) continuation and improvement of the medium-term lending program through the Commercial Banks until specialized institutions can effectively meet the need. International financial assistance could play a significant role in the development and improvement of this and other term lending operations.

e) Licensing and Regulation of Industries

62. Restrictions on entry of new firms, local and foreign, should be removed so that market forces can play the decisive role in the growth of manufacturing industry. The Ministry of Industry should abandon the present use of the licensing system to restrict competition and use the system principally for statistical purposes and safety inspection.

f) Labor Laws

63. The Ministry of Manpower should be assisted in revision of the Labor Code so that labor costs could be rationalized, rising remuneration of productive workers encouraged, and the evasion and circumvention of law made unnecessary. The principal changes required are:

- i) the commutation of all payments in kind to cash to establish a simple cash wage which would be easy for the employer to calculate and the employee to understand;
- ii) an adjustment of paid holiday leave, sick pay, hospital pay and similar benefits to levels consonant with Indonesia's economic condition, and a clear definition of such payments;
- iii) the reduction and progressive elimination of other types of payments including family benefits, so that wages may be linked to individual productivity;
- iv) the reduction of excessive special payments to female workers such as two days extra leave a month which presently renders the employment of women unattractive;
- v) the reduction of excessive penalty rates for overtime.
- g) Company Law

64. The adoption of the "one share one vote" principle is planned to be followed by a revision of the Commercial Code. This may require some assistance in personnel, and appropriate authority, for the Ministry of Justice, to ensure a speedy completion of the Code's revision and its passage through Parliament.

h) State Enterprises

65. Several state enterprises have in the past been transformed from P.N.'s (Perusahaan Nasional) to P.T.'s (Perseroan Terbatas), the main distinction being the independence of enterprise management from the responsible ministries or departments. In the industrial sector only little headway has been made in this direction; in recent months requests for this transformation have been submitted to the Finance Ministry for all but two of the 27 industrial enterprises under the Ministry of Industries. Exceptions are P.N. Sandang, which operates a series of spinning and weaving plants, and P.N. Garam, the salt production enterprise on the island of Madura. Plans for the transformation and possible integration of the metal working and machinery plants P.N. Brimas, P.N. Indra and P.N. Boma are in an advanced stage of preparation.

66. The formation of P.T.'s is a first and important step towards the creation of more efficiently operating industries; it is by no means the last one that is needed. Several industries are using outdated machinery and equipment, have too large a labor force and are financially unsound. This does not only apply to several or maybe most of the industries under the Ministry of Industries: the sugar industry under the Ministry of Agriculture, and others scattered over various other departments may be in the same or worse conditions.

67. At present many of the P.N.'s rely heavily on credits and advances from the Government or the state banks. Their transformation into P.T.'s will make it necessary to replace those funds which serve the purpose of working capital by normal credits provided on economic grounds. It will also be necessary to decide on the status to be given to government finance which presently is tied up in these industries and which must take the form of equity or long-term debt. As many of the industries are not as yet in a position to make a profit in open competition and may need additional investment for rehabilitation or even expansion to reach that stage, the sources of funds required for this purpose should be identified as early as possible.

68. Some of these industries which are making profits at present use their returns for reinvestment while at the same time accumulating substantial arrears in paying corporate taxes. This is an undesirable situation which requires action to collect taxes due, and to open up access to financial investment resources from outside the enterprises. This is not a unique situation in state industries, as other notable examples exist in the estates and mining sectors; it reinforces the emphasis given to the need for establishing development finance institutions. In some cases joint ventures with foreign investors may be the best form of injecting new capital, management, and technology into such enterprises.

69. The establishment of conditions for vigorous industrial growth and development which would lead to a rapid increase in direct and indirect employment opportunities requires forethought on industrialization policy, changes in the legal framework and more vigorous support of investment. Not least, in view of the fact that Indonesian manufacturers have been exposed for many years to continually changing laws and administrative regulations, is the need for the simplification of the complex structure now in existence, and the replacement of "flexible" laws and regulations which can be bent at will by officials, by simple statutes which clearly define the competitive conditions under which business will operate.

Table 1.1

The Number of Establishments, Employment, Value of Output and Value Added in Indonesian Manufacturing Industries, 1963

	Number of Establishments	Percentage of Total	Average Number of Workers	Percentage of Total	Value of Output Million Rupiah	Percentage of Total	Value Added Million Rupiah	Percentage of Total
Food manufacturing	6,563	24.5	299,498	31.8	87,959	28.7	34,027	33.2
Beverages	296	1.1	5,866	0.6	3,339	1.1	1,257	1.2
Tobacco	2,601	9.7	159,105	16.9	69,289	22.6	14,123	13.8
Textiles	9,258	34.7	230,638	24.5	30,445	9.9	7,842	7.7
Wearing and textile goods	217	0.8	6,547	0.7	2,131	0.7	407	0.4
Wood	1,269	4.7	20,247	2.1	4,124	1.3	1,038	1.0
Furniture and fixtures	764	2.9	8,954	0.9	1,921	0.6	502	0.5
Paper and products	130	0.4	6,760	0.7	2,672	0.9	1,713	1.7
Printing	681	2.5	24,102	2.6	7,367	2.4	2,584	2.5
Leather and products	147	0.5	3,378	0.3	1,587	0.5	249	0.2
Rubber and products	911	3.4	63,888	6.8	51,474	16.8	20,213	19.7
Chemical products	577	2.2	26,464	2.8	17,766	5.8	7,090	6.9
Non-metallic mineral products	1,205	4.5	29,203	3.1	9,140	2.9	5,522	5.4
Metal products	785	2.9	20,509	2.2	6,394	2.1	1,938	1.9
Manufacture and repair machines	110	0.4	5,287	0.6	2,078	0.7	916	0.9
Manufacture and repair electrical machines	57	0.2	2,331	0.2	904	0.3	346	0.4
Transport equipment	819	3.1	20,324	2.2	5,582	1.8	1,872	1.8
Miscellaneous manufacture	371	1.5	10,178	1.0	2,672	0.9	706	0.8
Total	<u>26,761</u>	<u>100.0</u>	<u>943,279</u>	<u>100.0</u>	<u>206,845</u>	<u>100.0</u>	<u>102,345</u>	<u>100.0</u>

Note: Figures from the 1964 Census for numbers employed and numbers of factories employing more than 10 persons or using power are published in Sensus Perindustrian 1964, I, Hasil Pendoftaran Perusahaan Industri (Industrial Census 1964, Manufacturing) Djakarta, 1967 and cover 33,627 establishments and 1,000,011 workers. Of these establishments, 9,295, employing 40,930 persons, employed less than 10 persons. However, value of output and value added corresponding with the Census figures were not available, and it is necessary to use figures provided in the National Income of Indonesia 1960-64 by Industrial Origin (Djakarta, 1967). Here contribution to National Income has been computed from a sample of data collected in the Industrial Census of 1964 but this accounts for only 26,761 establishments (80 percent of Census figure) and 943,278 workers (94 percent of Census figure). In most cases, number of establishments and of workers in industrial groups is less than in the preliminary census returns though in furniture the number of establishments 764 (575) and in food manufacturing the number of workers 299,498 (235,102) is higher in the sample.

Source: Biro Pusat Statistik. Pendapatan Nasional Indonesia Menurut Lapangan Usaha, (Djakarta, 1967), mimeographed, Tables 6.1 to 6.6, pp. 66-73.

TABLE 1.2

PRODUCTION, IMPORTS AND CONSUMPTION OF COTTON, COTTON YARN AND CLOTH, 1960-1969

	<u>Raw Cotton - 500 lbs = 1 Bale</u>			<u>Cotton Yarn - 400 lbs = 1 Bale</u>				<u>Cloth - Million Metres</u>			<u>Cloth -</u>
	<u>Stock, Jan. 1</u>	<u>Imports</u>	<u>Consumption</u>	<u>Stock, Jan. 1</u>	<u>Production</u>	<u>Imports</u>	<u>Consumption</u>	<u>Production</u>	<u>Imports</u>	<u>Total</u>	<u>Consumption per head</u>
											<u>Metres</u>
1960	37,650	53,680	41,503		47,413	324,053	225,600	282.0	340.0	622.0	6.5
1961	49,829	48,840	39,281	145,848	44,638	311,833	300,000	374.0	567.0	941.5	9.6
1962	59,386	46,640	43,903	202,319	49,890	163,920	245,700	307.1	393.6	700.7	7.0
1963	62,123	31,055	51,948	170,429	59,032	127,845	214,600	268.3	218.6	486.9	4.7
1964	41,230	19,364	37,564	142,706	42,686	151,281	189,328	236.6	240.0	476.6	4.6
1965	23,030	57,024	68,261	147,345	77,569	251,671	364,800	456.0	326.4	782.4	7.3
1966	11,793	35,182	40,483	111,785	46,003	129,100	200,500	250.0	497.3	747.3	6.8
1967/a	6,492	158,408	82,700	86,388	93,077	52,478	175,478	225.0	543.7	768.7	6.8
1968	82,200	66,652	114,380	56,465	129,719	(117,950)	253,250	316.5	(523.8)	(840.3)	(7.3)
1969	34,472	160,633	142,055	50,884	160,043	(192,270)	(332,200)	415.2	(310.2)	(727.4)	(6.6)

Note: Some of the figures in this table are calculated from Central Bank statistics and are therefore tentative. Smuggled goods in particular are not recorded, and the allowance for knitted goods is somewhat arbitrary. Figures in parenthesis are preliminary, and so is the data for 1967.

Source: The Department of Industry, Directorate General of Textile Industries, Data About the Textile Industry in Indonesia, Djakarta, 1970, and updated figures for 1969.

Table 1.3

Estimates of Recent Production Trends in Selected Industries

<u>Basic Industries</u>		<u>1965</u>	<u>1966</u>	<u>1967</u>	<u>1968</u>	<u>1969</u>
Batteries (wet)	(Pieces)	33,722	31,169	21,000	28,600	32,000
Radios	(Pieces)	42,318	92,922	216,000	391,750	363,500
Television sets	(Pieces)	536	1,448	500	1,200	4,500
Electric light bulbs	(Pieces)	7,519,814	5,957,686	7,830,514	5,862,900	8,212,286
Electric and telephone wire	(meters)	1,460,159	250,000	210,000	572,000	1,000,000
Water pumps	(Pieces)	391	201	-	600	900
Hullers	(Pieces)	794	539	-	900	2,300
Galvanized iron sheets	(Tons)	-	-	-	8,125	8,500
Structural iron	(Tons)	-	-	-	-	4,500
Water pipe and Union pipe	(Tons)	2,253	3,106	1,257	1,197	1,957
Road rollers	(Tons)	-	-	200	200	200
Sprayers	(Pieces)	-	-	-	5,000	20,000
Dry Batteries	(Pieces)	4,167,308	2,554,405	1,210,500	4,377,000	4,500,000
Sewing machines (assembly)	(Pieces)	6,014	10,763	5,500	4,000	14,000
Automobiles (assembly)	(Pieces)	2,204	2,165	1,186	2,403	5,037
Motorcycles (assembly)	(Pieces)	-	-	805	6,247	21,388
Engine & Spare parts for agricultural estates, mining and textile	(Tons)	1,431	1,500	1,114	1,900	2,400

Chemical Industries

		<u>1960</u>	<u>1964</u>	<u>1968</u>	<u>1969</u>
Fertilizer (urea)	(tons)			95,170	84,170
Cement	(tons)	1,386,607	438,647	411,038	534,017
Paper ^a	(tons)	8,746	8,535	11,267	15,761
Tire	(tons)				
(Tires for motor vehicles)		89,522	84,798	238,911	359,031
(Tubes " " " ")		87,674	63,285	157,809	226,981
(Tires for bicycles)				1,184,822	1,241,015
(Tubes for bicycles)				226,962	161,056
Glass	(tons)	12,727,682	6,996.5	5,784	9,561
Caustic Soda	(tons)	750	686	1,019	1,113
Salt	(tons)	196,736	53,000	23,325	160,000
Carbon oxide	(tons)	872	641	361	514
Oxygen	(tons)			1,855,975	2,130,073

Light Industries

		<u>1968</u>	<u>1969-1970</u>
Soap	tons	200,000	250,000
Coconut oil	tons	208,000	249,790
Frying oil	tons	23,465	28,076
Matches	million	238	262.9
Tooth brushes	million tubes	13	16
Batik	million meters	64	96

^a Paper production is combined total of Padalarang, Letjes, Blabak, P. Siantar Basuki Rachmat and Gowa.

Table 1.4

Number of Manufacturing Investments Approved and in Operation, September 30, 1970

	Approved			In Operation		
	<u>Domestic /a</u>	<u>Foreign</u>	<u>Total</u>	<u>Domestic</u>	<u>Foreign /b</u>	<u>Total</u>
Textile Industry	93	30	123	13	0	13
Light Industry	229	76	305	25	27	52
Basic Industry	20	35	55	0	9	9
Chemical Industry	2	5	7	1	1	2
Total	<u>344</u>	<u>146</u>	<u>490</u>	<u>39</u>	<u>37</u>	<u>76</u>

/a Include domestic projects recommended by the Department of Industry to the Domestic Investment Board, but not yet approved by the Board.

/b Include established factories returned to their owners.

Source: Department of Industry, Director Generals of Textile Industry, Light Industry, Basic Industry and Chemical Industry.

Table 1.5

Distribution of Employment by Industry and Area, 1964 (Percent)

Industry	Region:									
	Java & Madura	Province: West Java	Prov. Mid-Java	Prov. East Java	Province: Yogyakarta	Prov. Djakarta	Region: Sumatra	Region: Kalimantan	Region: Sulawesi	Total
Food manufacturing	86.8	17.4	17.4	48.7	1.0	2.4	9.1	1.4	1.7	100
Beverages	79.3	13.9	9.7	37.4	2.2	16.1	13.2	3.0	3.3	100
Tobacco	96.2	0.2	30.4	64.1	1.6	0.1	1.7	-	*	100
Textiles	94.9	32.8	30.9	18.8	5.7	6.6	2.8	*	1.7	100
Manufactured textile goods	96.5	21.4	7.6	21.1	2.4	44.0	1.2	0.4	1.7	100
Wood	55.0	7.0	7.8	33.5	1.2	5.7	33.9	6.6	3.7	100
Furniture	85.5	13.9	17.0	41.2	4.3	9.0	8.8	1.3	2.8	100
Paper	93.2	15.4	16.0	39.6	-	22.2	6.7	-	0.1	100
Printing	85.2	15.5	11.2	15.5	6.6	36.5	9.7	1.7	2.6	100
Leather	91.5	14.4	9.6	30.7	8.0	28.8	4.1	4.1	0.3	100
Rubber	61.3	34.5	10.4	6.7	*	9.7	33.0	5.5	-	100
Chemicals	83.0	11.3	10.9	34.5	1.4	24.8	14.8	0.1	1.6	100
Non-metal mineral	84.6	33.6	11.5	25.6	2.7	11.1	11.4	0.5	2.4	100
Metal products	95.3	13.1	11.9	35.3	4.3	80.8	3.1	0.5	0.5	100
Manufacture and repairing-machinery	85.7	17.8	5.4	48.8	2.6	11.2	13.4	0.6	0.3	100
Manufacture and repair-electrical machinery	92.7	11.8	7.2	32.9	0.3	40.5	6.9	*	0.3	100
Manufacture of transportation equipment	84.4	11.5	8.1	22.3	0.9	41.6	10.7	1.4	2.7	100
Miscellaneous	92.0	9.5	10.1	39.2	7.0	26.2	5.2	0.2	0.5	100
Total	87.8	20.2	20.9	34.3	2.8	9.6	8.6	1.1	1.4	100

Note: Totals may not add up to exactly 100 due to rounding.

* Less than 0.1 percent.

Source: Calculated from Sensus Perindustrian 1964, I, Hasil Pendaftaran Perusahaan Industri, Djakarta 1967.

Table I.7: List of Prohibited Imports

No.	Commodity Description	Post Tariff	Trade Minister's Decree	Remarks
1.	Batik motive textile	356-IIb	No.69/Kp/IV/1970, tgl. 17 April 1970 (vide error/description supplement Trade Minister's Decree No. 69/Kp/IV/70, 17 April 1970	in connection with Trade Minister's Decree No.05/SK/I/1968 tgl. 29 January 1968 as completed.
2.	Motor Cartires with measures: 6.00 - 16 6.70 - 15 6.50 - 16 7.50 - 20	235-IV	ditto,	ditto.
	Tires for motor vehicles Passenger car measures: 500/520 - 10 520 - 13 560 - 13 590 - 13 640 - 13 725 - 13 500/520 - 14 590/640 - 14 500/560 - 15 600 - 15 Truck measures: 750 - 16 750 - 17 34 - 7/750 - 20	235-IV	No.181/Kp/70, 20 August 1970	valid on 20 August 1970
3.	Books, magazines and all kinds of printed materials in Indonesian and Regional language Exception : a) in case of diplomatic relations. b) in case of University need.	334-I,II	No.69/Kp/IV/1970 17 April 1970	in connection with Trade Minister's Decree No. 05/SK/I/1968, 29 January 1968. as completed.
4.	Commercial Cars in built-up condition Exception : for Regions outside Java and Sumatra.	834-Ib, 1,2,3 dan 834-IIb.	ditto	

No.	Commodity Description	Post Tariff	Trade Minister's Decree	Remarks
	<p>Certain motor vehicles classified under commercial cars as meant in the joint decree of Minister of Trade and Industry.</p> <p>No. 11/Kpb/I/69 32/11/SK/I/69 31 January 1969 and joint decree No. 147/MSK/IV/70 59/Kpb/IV/70 8 April 1970 in second hand condition to Java and Sumatra.</p> <p>Moto :</p> <ul style="list-style-type: none"> - Interinsular shipment of second hand Commercial cars from other region to Java and Sumatra is permitted 5 years after the import date to the certain part of Indonesia. - Second hand commercial cars which in the harbour in Java and Sumatra, at the valid date of this Decree, is still allowed to finish import duties, in accordance with the valid regulation. 	<p>834-In, 1,2,3, 4aa, 4bb dan 4cc</p> <p>834 - IIa.</p> <p>834-In,4bb, (delivery van) and 834-ia,4cc (soda)</p>	<p>No. 77/Kp/V/1970, 5 May 1970</p>	<p>Trade Minister's Decree No. 77/Kp/V/1970, valid on 5 May 1970.</p>
5.	<p>Secondhand glass bottle of 350cc to 650cc.</p>	<p>491 - I</p>	<p>No. 69/Kp/IV/1970, 17 April 1970.</p>	
6.	<p>Sarong plectat (Textilo)</p>	<p>356 - VIII</p>	<p>ditto.</p>	
7.	<p>Motor cycle in built-up condition</p>	<p>838 - XI</p>	<p>No. 123/Kp/VI/1970 12 June 1970</p>	<p>valid on 1 August 1970.</p>
8.	<p>Dry-cell battery, especially size of 60 mm in height and 33 in diameter (1,5 Volt-1).</p>	<p>787 - Ia</p>	<p>No. 180/Kp/VIII/1970 20 August 1970.</p>	<p>valid on 20 August 1970.</p>
	<p>Kain Lurik (Textilo)</p>	<p>356-IIb2.</p>	<p>No. 182/Kp/VIII/1970, 20 August 1970</p>	<p>valid on 20 August 1970.</p>
	<p>Unbleached Cotton (20/S X 20/S) of 36" in width.</p>	<p>356-IIb1</p>	<p>ditto.</p>	<p>ditto.</p>

o.	Commodity Description	Post Tariff	Trade Minister's Decree	Remarks
1.	Radio and Television in built-up condition	792 - II	No.187/Kp/VIII/1970, 24 August 1970	valid on 24 August 1970.
12.	Galvanised Iron Steel	525 - IIa	No. 188/Kp/VIII/1970, 24 August 1970	ditto.
13.	Electric light bulb and flourescent lamp with certain measure and wattage	790 - IIa,b	No.220/Kp/IX/1970, 22 Sept. 1970	valid on 22 Sept.1970.
	1) Electric light bulb classified under Post tariff 790-IIa,b, wattage up to 200 watt, voltage 100 volt to 130 volt.			
	2) Flourescent Lamp, classified under Post Tariff 790-IIa,b of 20 mm to 40 mm in diameter, 460 mm to 1520 mm in length, straight form. Wattage 16 watt to 80 watt, voltage 100 volt to 130 volt.			

LIST OF LIGHT INDUSTRIES CLOSED TO FOREIGN CAPITAL INVESTMENT

No.	Field of Industry	Remarks
1.	Milk and other dairy products	Full filled, except for expansion
2.	Batteries	Full filled, except for expansion
3.	Monosodium glutamate	Full filled, except for expansion
4.	Cigarettes	Full filled, except for expansion
5.	Matches	Full filled, except for expansion
6.	Paint	Full filled, except for expansion
7.	Plastic and leather shoes, slippers, etc.	Full filled, except for expansion
8.	Nails and wooden screws	Full filled, except for expansion
9.	Patjol (hoe, spades)	Full filled, except for expansion
10.	Laundry soaps	Except non soap detergents
11.	Coconut oil	Except other vegetable oil/edible oil but not from copra/coconut
12.	Milled flour	Full filled, except for expansion
13.	Tooth paste	Full filled, except for expansion
14.	Biscuits and confectionaries	Full filled, except for expansion
15.	Bicycle tires and tubes	Full filled, except for expansion
16.	Boot polish	Full filled, except for expansion
17.	Plastic wares (include formica sheets (except decorative plywood)	Full filled, except for expansion
18.	Printing	Except lithographic printing
19.	Bicycle assembling plant	Except bicycle parts manufacturing
20.	Printing ink	Full filled, except for expansion
21.	Enamel works	Full filled, except for expansion
22.	Aluminium house-hold wares	Full filled, except for expansion
23.	Candies	Full filled, except for expansion
24.	Soft drinks/beverages	Full filled, except for expansion
25.	Concrete tiles/porcelain tiles	Full filled, except for expansion
26.	Bricks and tiles	Except refractory bricks
27.	Sewing machine assembling plants	Except sewing machines parts manufacturing
28.	Ice cubes	
29.	Can making	Except as supplementary parts of a non exported food stuff canning plant

Source: Ministry of Industry, Directorate General of Light and Handicraft Industry, Foreign Capital Information Sheet in the Field of Small Scale Industry. (September 1970).

Chapter 2

THE MINING SECTOR

A. Oil and Refinery Production Trends

70. Crude oil production has risen steadily over the last five years at a rate of almost 10 percent annually, from a level of 169.8 million barrels in 1964 to 270.9 million barrels in 1969. Estimated output in CY 1970, based on actual returns for the first two quarters and a projected output increase in the second half, is 310.3 million barrels. Refinery output also shows a steady, though slower, rate of increase except for 1966 and 1967 when the unsettled conditions of the country kept the major refineries operating at well below capacity. However, in 1969 an increase in refinery production of 7.1 percent was recorded, and for 1970 it is estimated to be about 24 percent. The main refinery products are industrial and motor fuels, kerosene, heavy oils and a sizable quantity of wax residues.

71. Existing crude production is mainly in the large Caltex field in Central Sumatra and, in much smaller volume, from the Stanvac areas in South and Central Sumatra and PERTAMINA's operations in a number of areas. Increases in production have so far been from these proven on-shore fields, mainly the Caltex field, rather than from newly discovered ones. A new section of the Caltex area in Central Sumatra and three offshore areas are expected to come into production during 1971 and to be the source of further increases in output in 1971/72. The Government estimates that average daily crude production will increase from about 742 thousand barrels per day in 1969 to 850 thousand barrels per day in 1970 and to more than 950 thousand barrels per day in 1971. The larger part of the increase will be from the Caltex operation. It is possible that by the end of 1971 production will reach the 1 million barrel per day level, but for the year it is expected to average 966 thousand barrels per day or a total output in the year of 353 million barrels, an increase of almost 14 percent over 1970 output.

72. Total rated refining capacity in 1970 of all seven state-owned refineries is about 299 thousand barrels per stream day including 25 thousand of new capacity in a recently opened refinery in Sungai Pakning on the east coast of Sumatra. Most of it installed before 1965, capacity to process oil by-products is about 200 thousand barrels per day. Domestic crude inputs to refineries have averaged 73 million barrels a year over the last five years indicating a fairly high rate of capacity use. Since 1964 imported crude input has been marginal, and only served the purpose of substituting lesser quality crudes for the higher priced crudes produced in Indonesia.

73. In addition, construction is under way of a new refinery at Dumai in Central Sumatra with a capacity of 100 thousand barrels per day. The Pladju refinery, the biggest existing one, is also being expanded with the addition of an asphalt plant with a 400-barrels-per-day capacity. To meet increased demand in North Sumatra, a lubricating oil blending plant was constructed in Pangkalan Brandan with a capacity of 200 barrels per day and an asphalt plant in Pangkalan Susu of 350 barrels-per-day capacity. A topping unit with a capacity of 5 thousand barrels per day designed to increase kerosene output is being rehabilitated, and the first stage of an LPG (liquefied petroleum gas) plant of 7 thousand-barrels-per-day capacity is now in production. In short, PERTAMINA, the state-owned enterprise which operates own and nationalized oil wells and facilitates and acts as the Government's agent for dealing with foreign oil companies, has in the last five years engaged in a major investment program to increase refining capacity. This effort has apparently been successful.

74. The prospects for the longer run future depend partly on the outcome of the intensive offshore explorations now being conducted under Production Sharing Contracts by some 34 foreign companies and partly on the extent of the production which may be obtained by Caltex from new fields in onshore areas adjacent to its existing concession areas in Central Sumatra. The prospects in both are highly promising. A number of companies are drilling exploratory wells in these structures and three of them have recently announced that they have established the existence of commercial size reserves and are now engaged in preparations to begin commercial production. It is expected that such production by these companies will be underway by September 1971 at the rate of approximately 50,000 barrels per day in each case.

75. The market outlook for additional quantities of crude oil which may be produced in Indonesia is also promising. The Far East market, of which the Japanese market is by far the largest component, is large and rapidly growing. Indonesia today supplies only approximately 10 percent of the Japanese market, a smaller share than it supplied several years ago, mainly because increases in consumption in the Japanese market have outrun increases in production in Indonesia. Indonesian crude oil is also moving to Western Hemisphere markets and could become a factor in European markets as well, particularly with the prospect of substantially reduced tanker freight costs as a result of the use of giant tankers.

76. The two foreign companies now producing crude petroleum in Indonesia operate under so-called "Contracts of Work", which are agreements with the Government concluded in 1963 in modification of the earlier concession arrangements under which the two companies had operated for a number of years. The essence of the financial arrangements under these Contracts is that operating profits are split 60 percent to the Government and 40 percent to the companies; operating profits constitute actual realized sales receipts less costs, with costs limited to a maximum of 40 percent of sales receipts. The newer arrangements under which some 34 companies are now engaged in exploration are termed "Production Sharing" Contracts.

The essence of the financial arrangements under these is that operating profits are shared 65 percent to the Government and 35 percent to the companies, that these shares become 67-1/2 percent and 32-1/2 percent as soon as production exceeds a certain level, and costs are again a maximum of 40 percent of sales receipts. Pertamina operates as an autonomous Government enterprise and conducts its production, refining and export sales operations in its own name, principally on the base of the former Shell properties, and acts essentially as a monopoly agent of the Government in its domestic distribution operations. A new law, intended to clarify and regularize the financial and other relationships of PERTAMINA to the Government, was presented to the Parliament in November 1970.

77. PERTAMINA recently purchased the STANVAC refinery at Palembang and now owns and operates all of the refining facilities in the country. It supplies these refineries partly out of its own output -- which averaged slightly in excess of 100,000 barrels per day in 1970 -- and partly out of crude oil which it receives from the foreign oil companies on two different bases, as "pro rata crude" and as "crude in kind". "Pro rata crude" is the crude oil which, under the terms of all the Contracts, each company must deliver to meet the requirements of the domestic market. The amount each company delivers is a percentage of the total domestic market requirements equal to the percentage its output represents in total national output. Pro rata crude is delivered at cost plus U.S. 20 cents per barrel. "Crude in kind" is simply crude petroleum which PERTAMINA purchases from the foreign oil companies at the export price. PERTAMINA sells the products of its refineries in both the export and the domestic market. In recent years, some imports of kerosene, the principal product demanded in the domestic market, have supplemented PERTAMINA's own output of kerosene.

78. Principally reflecting the estimated increase in crude petroleum production, gross foreign exchange receipts from oil are expected to increase from \$387 million in 1969/70 to an estimated \$437 million in 1970/71 and to \$508 million in 1971/72.

Production and Exports of Petroleum 1964-1970

(in million barrels)

<u>Year</u>	<u>Production</u>	<u>Exports</u>	
		<u>Crude</u>	<u>Refined</u>
1964	169.8	99.5	25.9
1965	177.0	96.3	30.3
1966	170.5	94.9	31.7
1967	186.1	112.7	29.0
1968	219.9	145.5	27.6
1969	270.9	188.8	33.8
1970 <u>1/</u>	310.3	223.2	33.0
1971 <u>2/</u>	362.0	258.9	44.9

1/ Estimated

2/ Projected

Source: PERTAMINA and Directorate of Mining.

79. Comprehensive price data on exports were not available in time for this writing, but it is reported that Indonesian low-sulfur oil sold for an average of \$1.62 per barrel, increasing slightly over last year due to stronger preference for low-sulfur crude. Some small further price increase is anticipated in the immediate future.

80. The accounting structure of the oil sector is complex, as it involves relations between foreign oil companies, PERTAMINA and the Government under several types of contract and agency relationships, the mutual provision of transport and marketing services and a number of special pricing arrangements. Table 1 represents an attempt to put the complete set of oil transactions together netting out a number of services mutually performed, and treating PERTAMINA as a distributor on its own account rather than as an agent of the Government, in its domestic distribution operations. This procedure has no effect on the ultimate outcome with respect to costs and revenues for either the foreign oil companies, PERTAMINA or the Government, but has the advantage of simplicity of presentation. It should, however, be realized that many of the transactions shown here are in fact more complicated sets of flows of goods, services and payments which have been grouped together or are netted in this presentation.

81. Foreign oil companies -- part B of the table -- are expected to produce 316 million barrels of crude oil in 1971 and PERTAMINA 37 million barrels. Official estimates for 1971 put the domestic market requirement at 49.2 million barrels (B.2) which leaves 266.5 million barrels for export. The so-called "pro rata crude", delivered to PERTAMINA by the foreign companies (see also C.2), is estimated to cost PERTAMINA \$22.4 million or an average of \$0.46 per barrel including the fee of \$0.20 per barrel. The cost element is paid to the foreign companies in foreign exchange; the fee element is paid in rupiah.

82. Exports are valued at \$1.62 per barrel in 1971. In fact, the price may on the average be 2 cents per barrel higher, given current price expectations. Export earnings (gross) by foreign oil companies are estimated to be, at the \$1.62 price, \$432 million: they would be \$437 million if the higher price should prevail (B.3).

83. Government's share of profits is calculated in part D) of the table. Total sales of the foreign companies consist of exports, including non-concessional sales to PERTAMINA, plus sales of "pro rata" crude to PERTAMINA, together amounting in 1971 to \$454 million (B.1 and D.1); average production costs are estimated at \$0.22 per barrel and total \$69.5 million (D.2). The net operating revenue is \$387 million (D.3). The Government gets 60 percent of the net operating revenue, or \$231 million (D.4). The foreign companies retain 40 percent, estimated here at \$154. This amount less estimated bonus payments of \$5 million (E.3) is the investment income figure debited in the balance of payments against gross oil exports of \$508 million (B.1 plus E.1).

Table 2.1: Production and Use of, and Earnings from, the Oil Sector (1971)

	Quantity (million barrels)	Cost/Price (\$ per bbl)	Rupiah Costs/Revenue (\$ equivalent)	Foreign Exchange Costs/Revenue (\$ million)	Total Costs/Revenue (\$ million)
A. Total Output	353.0				
(a) Contract of Work	300.4				
(b) Production Sharing	15.3				
(c) PERTAMINA	37.3				
B. Foreign Oil Companies					
1. Production	315.7	(1.44)	9.8	444.3	454.1
2. Delivery to Refineries	49.2	(0.46)	9.8	12.6	22.4
3. Exports (1 - 2)	266.5	1.62	-	431.7	431.7
C. PERTAMINA					
1. Delivery to Refineries	37.3	1.34	24.2	25.8	50.0
2. Receipts from Foreign Companies	49.2	(0.46)	9.8	12.6	22.4
3. Crude in Kind	7.6	1.60	-	12.6	12.6
4. Total Refinery Input	94.1	(0.90)	34.0	51.0	85.0
5. Losses, Hestage	10.0	1.70	6.8	10.2	17.0
6. Cost of Refining	94.1	0.32	14.6	15.5	30.1
7. Sea Transport of Crude	54.6	0.21	-	11.5	11.5
8. Transport of Products	49.0	0.55	6.7	20.3	27.0
9. Marketing Costs, Fee	43.0	0.34	11.2	3.4	14.6
10. Costs of Imports	10.0	2.53	1.9	23.4	25.3
11. Exports of Products	44.9	1.70	-	76.3	76.3
12. Domestic Market Sales	49.0	3.44	168.6	-	168.6
D. Government Share of Foreign Oil Companies					
1. Total Sales	315.7	(1.44)	9.8	444.3	454.1
2. Production Costs	315.7	0.22	7.8	61.7	69.5
3. Net Operating Revenue	315.7	1.22	2.0	382.6	384.6
4. Government Share (60%)			2.0	228.8	230.8
E. PERTAMINA Current Account					
1. Foreign Sales (C.11)			-	76.3	76.3
2. Domestic Sales (C.12)	49.0	3.44	168.6	-	168.6
3. Bonus Receipts				5.1	5.1
4. Total Revenue			168.6	81.4	250.0
5. Total Costs (C.1 through C.10)			75.2	135.3	210.5
6. Operating Revenue			93.4	-53.9	39.5
F. PERTAMINA Capital Account					
7. Gross Profit (E.6)			93.4	-53.9	39.5
8. Loan Disbursements				24.5	24.5
9. Debt Service				-31.5	-31.5
10. Net Investment			93.4	-60.9	32.5
11. Investment Expenditure			8.0	24.5	32.5
12. Conversion of Rupiahs			-85.4	85.4	-
G. Government Receipts (D.4 minus F.12)			<u>87.4</u>	<u>143.4</u>	<u>230.8</u>
Rupiah Equivalent			<u>33.0</u>		<u>87.2</u>

84. This payment to the Government is initially made by the foreign oil companies to PERTAMINA in foreign exchange. PERTAMINA transfers the full amount to the Government but may keep part of the foreign exchange needed for its own operations and pay the Government instead in local currency which PERTAMINA obtains from its sales of petroleum products in the domestic market. It is therefore necessary to analyze PERTAMINA's operations, in order to obtain an estimate of the transfer in foreign exchange which PERTAMINA can make to the Government, and which constitute part of "net oil exports" in the balance of payments.

85. PERTAMINA expects to refine 94 million barrels in 1971. The total input supply comes from PERTAMINA's crude output and from the foreign oil companies. Of the latter, the largest part is the concessionally priced pro rata crude, but the amount is not sufficient to meet refinery input requirements so that additional deliveries ("crude in kind") are needed for which PERTAMINA pays the full export price. As these deliveries are already counted as exports of the foreign oil companies, they are not included in PERTAMINA's exports.

86. The costs of PERTAMINA, in addition to the cost of crude oil, consist of transportation costs from well-head to refineries, refinery operating costs, transport of petroleum products, marketing and distribution costs and wastage and losses. Each of these items are estimated in part C of the table on the basis of per barrel costs taken from statistics of PERTAMINA and the Ministry of Mines. PERTAMINA's costs of \$1.34 per barrel for crude oil are high, reflecting the fact that most of its producing fields are small and old. STANVAC's production costs are also high for much the same reasons but are outweighed in the average production costs of the foreign companies by the far lower costs of CALTEX.

87. Conceptually and apparently in practice it is the domestic market which benefits from the fact that the average cost of the pro rata crude is lower than the export price. Prices in the domestic market are set on the basis of costs including pro rata crude at its delivery cost.

88. Even under these circumstances of high crude and operation costs PERTAMINA is earning a significant profit from its operations and sales in the foreign and the domestic markets. It is of course inevitable that it should earn profits on domestic market sales since it retains out of the selling prices an amount sufficient to reimburse all its costs plus a U.S. 25 cent per barrel fee for refining and distributing. This fee alone should provide a profit to PERTAMINA of about \$12 million. The Government "tax" on petroleum products sold in the domestic market is the residual difference between selling prices and cost-plus-fee payments to PERTAMINA.

89. With the exchange reform, PERTAMINA's costs for deliveries to the domestic market increased in terms of rupiahs since the foreign exchange component of its costs increased in rupiah terms. It appears to have been assumed, however, that all of PERTAMINA's costs increased to

the extent of the change in the exchange rate and PERTAMINA has since that time been receiving as "cost" an amount higher than actual cost. As re-tail prices of petroleum products remained unchanged, the higher apparent rupiah costs resulted in an equal reduction of the Government's receipts from excises on petroleum products by about Rp 5 billion. PERTAMINA's profit from domestic sales, which ought to be around \$12 million, have therefore increased to \$18.5 million.

90. The profits on domestic sales and exports, together with a notional estimate of bonus payments receipts, amount in total to almost \$40 million for 1971. It must be noted that this amount is not a foreign exchange receipt. PERTAMINA, in conducting its production, refining operations, and in distributing in the domestic market and selling abroad, uses more foreign exchange than it earns by the export of refined products. When investment expenditures and debt servicing are added, this foreign exchange deficit rises further to \$85 million (F.12). In order to obtain this amount of foreign exchange, PERTAMINA converts the equivalent amount of its local currency profits into foreign exchange; this foreign exchange is obtained from the transfers from foreign oil companies to PERTAMINA which the latter passes on to the Government. As a result, the Government gets its 60 percent share in the operating profit of the foreign oil companies only partly paid on foreign exchange, as PERTAMINA substitutes rupiahs for the equivalent of \$82 million.

91. The remaining amount of Government foreign exchange receipts -- the net oil exports -- of \$143 million is clearly liable to large fluctuations over time, depending on the magnitude of PERTAMINA's capability to re-invest own earnings and to borrow externally. On the first issue, there is no way in which the Government can restrict PERTAMINA's investment program, particularly as at present only a small portion of PERTAMINA's profits are paid as corporate tax. The assessment of the corporate tax liability was about Rp 5.8 billion in 1969 and should be in the order of Rp 6-7 billion in 1971; actual payments in 1970 are only Rp 1.2 billion. Proper collection of taxes would reduce PERTAMINA's investable resources but it would need the same amount of resources for its investment program. Additional Government revenues could thus be balanced against additional expenditures in the budget, unless alternative ways are found for providing PERTAMINA with the resources it needs. If external borrowing would take place of presently re-invested own earnings not paid as corporate tax, terms of such borrowing could be improved over those PERTAMINA is now obtaining; borrowing domestically for local currency requirements could also be on relatively favorable terms.

92. On the issue of external borrowing capability the Government exerts a measure of control through annual ceilings on outstanding debt of medium and short maturities. PERTAMINA has in the past taken the lion's share of this total and would certainly be able to secure more loans if the ceiling were increased. The very heavy debt services burden on PERTAMINA already at present suggests that this would be undesirable,

as it mortgages future foreign exchange earnings from oil exports, which ought instead to play an important role in the maintenance of sufficient growth of essential other imports.

93. If PERTAMINA were to pay its corporate income tax -- of the order of \$17.5 million -- its after-tax profits would be \$22 million, not sufficient to make the required debt service payment in 1971, unless short-term foreign exchange borrowing were available. It would also take away all own resources needed to utilize the foreign loans which are being disbursed. In other words, it could bring PERTAMINA's investment program to a complete halt, even if taxes were to be paid entirely in local currency. This would be undesirable as this investment program may be economically attractive and also acceptable within the development priorities of the Government. Alternative resources should therefore be made available to PERTAMINA, either by opening up the possibility of obtaining external loans under aid programs or, whenever useful, under the medium-term credit program.

B. Hard Minerals

94. Hard mineral mining has always been one of Indonesia's main foreign exchange earners, as the country is endowed with large deposits of exportable minerals such as tin, bauxite, nickel ore and other lesser known industrial minerals. During the unsettled economic conditions of the early 1960's, mineral production suffered a setback as mining capacity was reduced by the deterioration of equipment and especially of infrastructural facilities such as inland and maritime transport. With economic stabilization being achieved over the last five years, however, the rehabilitation required was concurrently undertaken along with new exploration and expansion programs. Moreover the door was open to private foreign capital which began to exploit new unexplored areas both off-shore and on. The following summarizes these developments:

Nickel

95. Indonesia is the main producer of nickel ore in Southeast Asia. All of this output is sold to Japan. Production in 1969 at 254.1 thousand MT is lower than that of the previous year by 3 percent, but exports including drawings from stockpiles exceeded 1968 levels by 7.8 percent, compensating for the loss in production. 1970 exports are estimated at 425,000 tons as compared with 259,361 tons in 1969.

96. Over the last five years output and exports increases were mainly due to two factors: a) improvement of sea loading and unloading techniques and facilities from the work sites and stockpiles into ore carriers; and b) the acceptance by Japan of a lower rejection point for exportable nickel ore from a former high of 2.8 percent to 2.4 percent (Ni + Co) content. Production and exports data for nickel ore are found in the attached tables.

97. There are three private foreign investment companies now engaged in exploration of nickel deposits. Not one has started full production. These are:

- a) INDECO - A Japanese firm, operates in the Halmahera region. Preliminary indications and laboratory tests show positive finds, but an exact estimate of the size and nickel (Ni + Co) content of the deposit are still being studied. It has so far spent close to a million dollars in its exploration activities.
- b) Pacific Nickel - A consortium of three nationalities; Holland, Canada and the U.S., this company has been exploring low-grade nickel deposits in Waigeo and the Cyclops mountains of West Irian since 1961. Explorations, at the cost of more than two million dollars, so far indicate the abundance of low-grade nickel ore, but though these deposits are proven to be large, the problem at present is finding the most economic ways of processing low-grade nickel ore deposits.
- c) International Nickel Co. (INCO) - Although this company has found high-grade nickel deposits in Southeast Sulawesi (Malili area), it is still continuing exploration activities on low-grade ores, and is also finding the same problem of extracting nickel economically.

98. To date explorations by private firms have shown the existence of vast deposits of low-grade nickel ore, but the technology of nickel extraction from these resources is not yet advanced enough to convert them economically into exportable concentrates or finished metal.

99. All nickel mining activities are carried out under the management of the State Enterprise for General Mining (PN Aneka Tambang). This enterprise has signed a production-sharing contract in 1962 with PT Nickel Mining in Indonesia and a Japanese firm, SUNIDECO. The contract calls for a supply of 120,000 tons per year of nickel ore over seven years as a payment for equipment and technical assistance provided by SUNIDECO.

100. PN Aneka Tambang is itself engaged in exploration of low-grade ores which have been found to exist in South Sulawesi (Pomalaa) areas. It is now studying the possibility of establishing a smelter, but though a complete feasibility study is available, financing has yet to be arranged. Japan's proposal to build such a smelter is still under study and international financial sources are now being considered, including IDA. The problem seems to be in selecting the economically optimum process in terms of available or potential electric power and in terms of the location, quality and quantity of nickel ore reserves. A decision on this and other points is not yet in sight.

101. The main aim of the state enterprise is to set up a processing plant that could utilize the large deposits of low-grade ores. Although all output is sold at relatively competitive prices, it is still more beneficial to export processed or semi-processed nickel. At present a nickel content of 2.4 is mutually agreed with Japan, and this is met by blending small quantities of high-grades ores having a nickel content of -3 (Ni + Co) with lower grade ores. The blending process is done in stockpiles at relatively low additional cost.

102. The major problems facing the industry are the still unsatisfactory harbor facilities in the working sites which necessitate the use of lighters to transport mined ore to larger vessels off-shore. The "rumors" circulated in the past about the world market being over-supplied with nickel do not worry the government now as they feel that Japan's nickel-hungry industries could well absorb all Indonesian nickel output up to the year 2000. The prospects for higher exports receipts from this are excellent. This is reinforced by a recent study of world nickel demand which shows a rapidly rising trend up to the next 30-40 years.

Tin

103. Indonesia 1/ produces nearly ten percent of the world's mine production. There was from 1951-55 to 1966 an unchecked decline in Indonesian production (from nearly 36,000 MT in 1954 to slightly over 12,000 MT). This output was raised to 17.4 thousand MT in 1969. Tin production will continue to grow at a rate of 1,000 MT p.a. and total production will reach 20,000 tons as of FY1972. Foreign exchange earnings from tin will grow at a rate of nearly 11 percent and reach US\$68 million in FY1971/72, despite a small decline in world market prices from 1.67 to 1.65 US\$/cif London as of 1972.

104. The potential for recovering the former tin output is obvious. The amount of earth moved for tin exploitation declined from 66.4 million m³ as of 1960 to 41.6 in 1967. It has recovered to 58.2 million m³ in 1969. Nevertheless, the improvement has almost entirely been confined to the gravel-pump sector, which is now accounting for nearly 40 percent of all tin production. The dredging sector (presently composed of 37 dredges, of which 13 are off-shore dredges) is still mining 40 percent below its throughput obtained in 1960 (Table 2).

105. A situation similar to the dredging sector exists in the Indonesian tin smelter industry. Designed initially for a total output of 25,000 MT p.a., its capacity has been downgraded to approximately 16,000 MT

1/ Indonesia is one of the six member producing countries of the present Third International Tin Agreement and its prospective successor, the new Fourth Agreement to enter into force on July 1, 1971.

as of 1970/71. Actual output in CY1969 reached 5.3 thousand tons due to problems of producing tin with a purity of 99.7 percent, which is the required minimum for Indonesian "Bangka" tin. The residual tin-in-concentrates are shipped to tin smelters in Malaysia for smelting on consignment. Efforts to improve the purity of the tin smelted in Banga have recently been successful and it is expected that nearly 13,000 MT of tin metal will be smelted in Indonesia as of CY1970, and 15,000 as of CY1970 and 1972. Despite this success, however, it is intended to continue through FY1971/72 to send a sizeable quantity of tin-in-concentrates (approximately 8,000 MT p.a.) to Malaysian smelters so as to forestall any disruption of marketing, which could result from a renewed production of low grade tin metal in the Beliton smelter.

Private Mining Activities in Tin

106. This being one of the most profitable minerals produced commercially in Indonesia the government has been understandably cautious in opening up concessions for foreign investors. The general principle followed in granting licenses therefore is to allow foreigners into areas which the state tin enterprise PN Timah cannot itself exploit with its present resources. These are areas off the shores of Belitung and Bangka Islands which are known to contain undetermined amounts of tin deposits. Also deep underground deposits on-shore are open for exploration. As a result of this policy only one foreign firm, NV Billiton Maatschappij (Dutch) is now engaged in off-shore exploration off South Belitung and the Karimata Islands. Results of this exploration are now being studied and all indications are positive.

107. Broken Hill Property (Australian) is now negotiating a contract to explore on-shore underground deposits. When this contract is signed it will be the second private foreign firm to have a concession in tin mining.

108. The rehabilitation of dredgers and other mining equipment has received the fullest attention of government since the new administration took over. 37 dredgers are now in operational condition; dock and repair facilities can only handle two dredgers at a time, however, for normal repair and maintenance care and there are plans to expand these facilities to take in four dredgers a year. Rehabilitation of dredgers makes it possible to dredge deeper, which makes ore layers with higher metal content accessible and thus adds to the efficiency and output of existing equipment. The Five-Year Plan has targeted an amount of \$44 million (this varies with the \$60 million targeted by the Directorate) for tin mining rehabilitation, but for a variety of reasons only \$11 million of this could be available for routine maintenance annually. BAPPENAS has in the past taken the position that PN Timah earns enough foreign exchange to enable them to finance their own rehabilitation program. A reconsideration of this policy may result in larger requests for project aid in order to preserve the country's own exchange earnings from tin and other mining products.

109. There are at present several major activities being carried out by the state mining enterprise:

- (a) A UNDP-assisted exploration is being conducted near shore and offshore areas between the islands of Bangka and Belitung.
- (b) A sonic survey, financed by Dutch technical assistance, was started in the second half of 1968, at a total cost of about Fl. 800,000. It is hoped that geomorphological maps of the sea bottom would reveal additional tin deposits.
- (c) The world's biggest sea-going dredger "Bangka I" with a capacity of 2,000 tons/year was recently commissioned along with ten other smaller, dismountable dredgers. Sixty percent of tin output is produced by dredgers, the remaining 40 percent by onshore mines.
- (d) A modern tin-smelting plant is now on a trial-run at Mentok, Bangka. It will have a capacity of 25,000 when in full operation. The fuel tank of this plant was financed with project aid.

Future Prospects for Tin

110. Export volumes are regulated by the International Tin Council which sets the annual ceiling on the basis of the previous year's performance. This procedure is not the best for Indonesia, in view of the rehabilitation still being carried out which makes output forecasting unrealistic. For instance, if before the rehabilitation of a dredger in a major mining site, output was 15 thousand tons in a given year, after rehabilitation this output could reach 20-25 thousand tons. This system of setting quotas would work well under normal conditions when all mining equipment is working at optimum capacity. However, in spite of the quotas, the Department of Mining is not worried about markets in the immediate future. Moreover, the U.S. (GSA) announcement of intention to release stocks gradually (6 thousand tons per year) and in accordance with provisions of the International Tin Agreement gives an added fillip to this optimism.

111. One of the factors that contributed to the deterioration of mining equipment in the early 1960's is the financial regulation that all foreign exchange proceeds from tin be surrendered in their entirety to the treasury, Ministry of Finance. In 1965 tin mines were allowed to recover 20 percent of these proceeds at the prevailing local (hence depreciated) exchange rate; in 1966, 50 percent was permitted. This ratio reached 75 percent in 1967 and at present it is 90 percent. Combined with an improved exchange rate stability, PN Timah now has more self-generated resources to finance its normal maintenance work and occasional rehabilitation projects and other investments.

112. PN Timah has been rather disappointed with project aid and disbursements. The delays are attributable to a number of factors, technical and administrative difficulties and lack of adequate credit available from the country where the equipment was originally made.

Bauxite

113. Market limitations have to be considered when examining production and export prospects for this mineral which is also mined in abundance in other surrounding countries such as the Philippines. Over the past five years production increased continuously, reaching 770.3 thousand MT in 1969 as compared with 647.8 thousand MT in 1964. Although Indonesian bauxite mines can easily yield over a million MT, market considerations compounded by poor stockpile facilities have kept output targets below this potential. Exports were 863.6 thousand tons in 1969 and are likely to increase to more than a million tons in 1970.

114. Efforts have been made to increase productive capacity over the last five years. The Kidjang Strait, a major loading channel, was dredged in 1969 to accommodate 30,000-ton vessels where before only 10,000-ton ships could pass. Loading capacity also was raised from 500 to 1,000 tons an hour. New mines were opened on shore on the island of Sembilang with a capacity of 1,000 tons per day.

115. Traditionally the stiffest competition on bauxite vis-a-vis Japan is from Australia which since the 1950's was able to extend long-term (up to 30 years) sales contracts to Japan, when Indonesia's mining capacity was suffering from neglect and deterioration. As a result, Indonesia could at that time only offer contracts up to a maximum of three years.

116. Since 1967, however, bauxite production started to pick up after a few bottlenecks were solved in conjunction with the general rehabilitation program launched by the Government. The main channel leading to Bintan harbor was dredged to accommodate larger vessels. Simultaneously old storages were repaired and expanded to store larger stocks, and at the same time make possible the blending of higher grade ores with lower ores at relatively little additional cost. This in effect increased exportable reserves without the discovery of new deposits. Thus in 1967 there was a 31-percent increase in output over the previous year to 920 thousand metric tons.

117. This development for the first time since World War II enabled Indonesia to offer longer-term contracts to Japanese smelters. Transport costs are still high (40-50 percent) relative to the total price charged for bauxite ores. Navigational and port problems still plague the industry, but with the initial investments made in 1966, output has started an upward trend which has continued to 1969.

118. The future of bauxite exports (and production) of course still depends on how much Japanese smelters can continue to absorb in the light of continued competition with other aluminum suppliers. It is believed that Japanese alumina plants and aluminum smelters lag in efficiency behind their U.S. and Canadian competitors, thus forcing Japan to seek larger and cheaper sources of raw material. Moreover, since the cost of low-grade ores to which the majority of Japanese technology is specially adapted remains high as compared to the cost of bauxite and alumina processing, Japanese industrialists are now shifting their outlook from direct importation of ores to processing of ores at the source and in turn sending the alumina to Japan. This they feel is the best way to cut down on transport costs to remain competitive.

119. It is not surprising therefore that Japanese foreign investment applications in Indonesia differ both in direction and orientation from those of other applications. In the Japanese case (Marubeni), a concession is applied for to cover exploration of areas reserved to the state enterprise and known to contain large low-grade deposits. The feasibility of these areas having been determined, this firm is now planning to establish an alumina plant and, in the long run, provided cheap electric power becomes available, a smelting plant which would produce aluminum for exports. Kaiser, on the other hand, is less interested in bauxite mining and exploration than the Japanese firm mentioned above. Its ultimate concern is the establishment of an alumina plant and smelter, again on the proviso that cheap power could be obtained from the Asahan project. Their raw material inputs would be purchased locally or if necessary imported from neighbouring sources. Alcoa's orientation differs slightly from the Japanese case in that it is interested in exploring new areas not reserved for nor intensively surveyed by the state enterprise. Furthermore, it is also intending to establish an alumina plant, once the reserves now being tested are proven. To date it has spent about \$1.5 million in its exploration activities.

120. Export earnings from present quality ores (51-55 percent purity) are seriously curtailed by transport problems. Hence, PN Aneka Tembang is engaged in a major dredging operation to deepen existing channels, to enable 30-thousand-ton ships to come into port directly, instead of having to transfer loads from 10-thousand-ton vessels. To date loading has improved considerably, to 1,000 tons per hour. The dredging operation is scheduled to be finished at the end of 1970. Moreover bunker construction has also been completed allowing a capacity of 90 thousand tons for mixing higher grade ores with lower ones in bulk.

121. There are no major problems in raising production efficiency and marketing prospects are very good. It is felt that once transport and navigational problems are solved, foreign exchange earnings are likely to rise as a result of reduced transport costs.

Coal

122. Coal output has been steadily declining ever since subsidized petroleum was found to be more economical both for household and industrial use. This is evident from the figures for 1969 at 191.1 thousand metric tons as compared with 445.9 thousand metric tons for 1964. Over the last three years all major coal mines operated at well below designed capacity (about one-tenth) due to lack of maintenance and repair resulting from lack of funds.

123. Coal has always been a poor foreign exchange and income earner, ever since low cost kerosene and oil products became available. The coal industry is subsidized. The Government therefore has now concluded an agreement with a Japanese firm to explore the possibilities of tapping and processing low-grade coal for industrial use. The survey conducted by the firm is now finished and found the establishment of a coal processing plant to be feasible. Under the terms of the agreement the Government is to provide the necessary infrastructure, and to do this it is now studying various sources of financing, including IDA. In 2-3 years the decision to build the plant will be made.

124. In addition, explorations are now proceeding in South Palembang for coal deposits that could be tapped for use in thermal electric generators.

Copper

125. Though never exported in bulk in the past copper ores are known to exist in various scattered areas. No substantial deposits in any one site have been proven, but Freeport Sulphur (U.S.) is continuing to follow-up promising leads in South Sulawesi. To date it is one of the biggest investors in mining, having spent close to \$10 million for exploration and about \$12 million for development of mine sites. The problem seems to lie in the technology of separating out copper ore from other elements which are non-exportable. A Yugoslav firm is in the process of applying for a similar concession, but negotiations are presently held up. In general, the prospects for developing major copper ore exports in the near future are not very promising.

Gold

126. Gold mining is under the management of PN Aneka Tembang. There are a large number of so-called "peoples mines" generally very small scale and operated on a part-time basis to supply local jewellers' demand. There are no foreign concessions so far. The Government is now conducting intensive research on how to separate gold from other elements such as

silver and lead, and exporting these by-products as well. One gram of gold is usually accompanied by 40 grams of silver. One mine using alluvial processing is now exploiting what is considered as a vast deposit in Central Sumatra. One rehabilitated dredger is also now moving slowly into proven rich areas (in Logas) and by the end of 1971, should begin to produce large exportable quantities. Gold mining is still small scale by international standards and unless major discoveries are made and/or a new process of extraction introduced, the industry faces an uncertain future as in the case also in several countries. Domestic prices (\$40 and above per oz.) are higher than international prices.

Other Minerals

127. Diamonds: The state enterprise (PN Aneka Tembng) has established a new washing plant in South Kalimantan and will start operation by the end of this year.

128. Iron Sand: A relatively new export product, this is found to be in abundance in the southern coast of Central Java. A sales contract has been drawn (with a Japanese firm) under which 300 thousand tons yearly of iron sand concentrates will be supplied in exchange for the establishment of a processing plant. Dredging of harbors is carried out by an Australian firm and construction of infrastructure facilities by Indonesians. Seventy percent of the latter is now completed and full production is expected to begin in the first quarter of 1971. This new product appears to be a new bonus to the mining industry.

129. Kaolin: Considered for a long time as a useful but non-commercial by-product, Kaolin is now also proving its export potential. A New Zealand firm (Crownlynn) has started application procedures and is now seeking preferably a joint contract with existing tin mines in the areas.

CHAPTER 3

TRANSPORTATION

A. Introduction

130. Indonesia has a basically well planned transportation system which, if efficiently operated and maintained, could adequately serve transport requirements now. However, a growing population and the necessity to open new areas will call for new capacity, especially in highways, in the near future. In 1969, total traffic, excluding international traffic, amounted to about 23 billion ton kilometers and 33 billion passenger kilometers, divided as follows between different modes of transport:

	<u>Ton Kilometers</u> (million)	<u>Passenger Kilometers</u> (million)
Road transport	12,100	27,300
Railways	860	4,450
Marine transport	10,000	390
Air transport	27	314

All estimates of road and marine transport are rough approximations based on the scarce available information. Although the margins of error are considerable, the above estimates provide some measure of the total traffic capacities, and of the relative importance of different modes of transport. With relatively small investments, mainly for the replacement of road vehicles and railway rolling stock the existing infrastructure could obviously handle more traffic. While it is too early to estimate total 1970 traffic, railway statistics and road traffic counts indicate that the growth of traffic observed in 1969 is continuing and even accelerating in 1970. Traffic growth of all modes except aviation may well turn out to exceed 11 percent during 1970 as a result of renewed economic activity and increasing production. Apparently, the system is capable of responding as demand for transport services increases. The immediate problem is therefore not one of capacity but of reducing transport costs.

131. Many transport facilities are in poor condition as a result of long neglected maintenance. Scarcity of foreign funds for spare parts was, and often still is, one of the major reasons for the deterioration of existing facilities. In addition, much of the equipment, railway rolling stock, aircraft and the fleet of road vehicles and marine vessels is very old and much re-equipment will be required over the next four years. The lack of managerial experience, and of adequately trained staff at lower levels, has compounded the effects of the lack of funds for the maintenance of existing facilities. As a result, available maintenance funds have not been optimally used or have not been used at all; investments have been planned haphazardly and facilities have been operated inefficiently. The poor condition of existing facilities, and present operational practices lead to costs of transport higher than they need be. Depending on type of

commodity, size of shipment, length of haul and traffic densities the financial costs of freight transport per ton kilometer are generally in the range of Rp 7-10 (US\$2.1-3.1) for railways, Rp 10-25 (US\$3.1-7.7) for road transport, and Rp 2-5 (US\$0.6-1.5) for inter-island shipping, though these are averages of a considerable range of costs which vary from commodity to commodity. These costs are not unduly high by developed country standards but considering the low costs of labor in Indonesia, there is room for improvement.

132. Although excess capacities exist in most modes of transport, new investments involving capacity expansion are required on a limited scale. New roads are justified in some inaccessible areas and for particular connections, such as between Djakarta and Bogor, where existing road capacities are insufficient and in Sumatra and Sulawesi where agricultural development potential is high; some improvements in airports are necessary to accommodate increasing air transport and modern aircraft; new port facilities may be required to serve particular industrial development, as in Tjilatjap on the south coast of Java; and river transport could be of growing importance where the volume and type of transport requirements do not justify road construction, as in some areas of Sumatra and Kalimantan. Improved ferry connections are also required particularly between Java and Sumatra and Java and the Eastern Islands.

133. Following recommendations made by previous missions the Government has initiated a program of technical assistance in the transport sector. The UNDP is financing the 1968-70 Highway Services which provides advice to the Government Highway Agency; bilateral agreements are likewise providing effective assistance in other modes of transport, inter-island shipping, dredging of ports, airline operations, air navigation, railways, etc. Additionally, the UNDP is providing assistance to BAPPENAS by way of an advisory team. This team is being expanded shortly to include data collection and cost experts. In accordance with the needs in the transport sector of Indonesia the expert teams provide assistance in management, operation and administration, and advise on appropriate procedures for the maintenance and rehabilitation of existing facilities. They have also started the analyses of investments for replacement, modernization and expansion. The studies of the consultants are expected to provide a rational basis for budgeting expenditures, both current and capital, in the future. Pending results of these studies the mission recommends a rather modest investment program for FY1971/72 consisting of projects which entail a minimum of risk.

134. Project preparation and budget preparation usually originate at the Directorate level in the Ministry of Public Works and Power for roads and in the Ministry of Communications for all other transport facilities. The project presentations submitted by the Directorates contain only superficial project analysis. Cost estimates are very rough and in few cases have there been attempts to quantify benefits. This is changing, however, particularly in the railway and highway spheres. Alternatives are seldom considered and traffic volumes, either present or forecast are not shown. In many cases the projects are not clearly identified. Some analysis of projects proposed in the Ministry of Communications is done in its Bureau of Planning and Development. The next stage is the review by the Communications and Infrastructure Division of BAPPENAS or often by Bank Resident

Staff. However, the original presentations are such that comparisons of projects even within one mode of transport are difficult if not impossible, and intermodal comparisons and priority decisions are based almost entirely on experienced but subjective judgment. In addition, the Chief of Communications and Infrastructure in BAPPENAS is also the Chief of the Bureau of Planning and Development in the Department of Communications; therefore the same person is responsible for the preparation for the analytical review and evaluation of transportation projects. These positions also include responsibility for project presentations to financing countries and agencies and often taking part in negotiations in Indonesia and abroad. At the present time there are virtually no staff qualified to either prepare projects or to evaluate them and the bulk of the work falls on consultants, the Resident Mission staff and the expatriate advisors to BAPPENAS.

135. If the deficiencies of project preparations and evaluation are to be overcome, technical assistance will be necessary in staff training and data collection. Existing technical assistance is making a contribution to improve project preparation in the agencies concerned, but it will be necessary to initiate a more comprehensive review and planning study for the sector as a whole of which the first stage should concentrate on staff training and systematic collection and processing of data. A start has been made on collection of data by consultants but processing remains a problem.

B. Railways

136. The Indonesian State Railway (PNKA) operates approximately 7,900 km of track, located on the islands of Java, Madura and Sumatra. Of the track on Java and Madura, there are 5,658 km of 1.067 meter gauge and 105 km of 0.60 meter gauge, while the track on Sumatra consists of 1,652 km of 1,067 meter gauge and 540 km of 0.75 meter gauge, the latter on the Atjeh line in northern Sumatra. The track of the PNKA is not all interconnected, but in effect forms six separate systems among which rolling stock cannot be directly transferred. These lines are in Java, Madura, South Sumatra, West Sumatra, North Sumatra and Atjeh.

137. The future role of the PNKA is one of the key issues of transport policy in Indonesia. As in other modes of transport, the physical facilities, both infrastructure and rolling stock, are in poor condition as a result of long neglect of maintenance and failure to renew over-aged equipment. Substantial investments would therefore be required to rehabilitate the system. PNKA plans to restore the system to 1939 standards of capacity and performance, and has estimated that investments equivalent to US\$140 million would be required for the rehabilitation of track on the major lines and the modernization of rolling stock, tele-communications and signalling. The Five-Year Plan envisages railway investments equivalent to about US\$100 million.

137. Decisions on investments of this magnitude should be based on an assessment of the economic viability of the railway system as a whole, and on benefit-cost analyses of particular projects. A start on assessment of benefits and costs has been made by expatriate consultants. A study

is also underway, with the assistance of German railway consultants, to investigate rail traffic potential, costs and tariffs, the possibilities of improvements in management and operations, and future investment requirements. This study has resulted in the identification of several projects, mainly for the rehabilitation of railway stock and track. The projects are modest and are mainly of a nature to preserve extensive investments.

139. Freight Traffic: A cautious approach to railway investment in Indonesia is indicated in view of the uncertainty regarding the volume and composition of traffic which the railway can attract and carry economically. The railway faces a number of disadvantages which are inherent in Indonesia's geography, the composition of commodities requiring transportation, and its competitive position relative to other modes of transport.

140. The territory of Indoensia covers an archipelago with about 3,000 islands stretched along the equator over a distance of about 5,000 km. Sea transport is therefore used in the trunk route role which in other large countries is taken up by the railways. PNKA competes with road transport for traffic to and from ports and for intra-island traffic in Java and Sumatra. Distances between the major producing or consuming centers and ports are relatively short and the exchange of goods between surplus and deficit areas in intra-island trade also generates mainly short-haul traffic. At the same time Java's higher population density (now approaching 1,100 per square mile) adds considerably to the economic costs of new road construction, so that a future role for railfreight as well as passenger operations appears to exist which the distances involved might not otherwise justify. Commuter traffic in the Djakarta area would appear to have a promising future.

141. The internal trade of Indonesia consists mainly of foodstuffs and light consumer goods. Typical bulk commodities such as iron ore, coal, construction materials and fertilizers make up less than 5 percent of total transport requirements.

142. The competitive position of PNKA is impaired by the geographical features and commodity composition, which leave little scope for the railway to provide those services in which railways have an inherent advantage. The lack of requirements for long distance bulk movements which permit fast through services on heavy trains has contributed to the decline of rail freight traffic in Indonesia. In short-haul transport of small shipments, terminal and distribution costs eliminate the line haul cost advantage of railways, and PNKA has consequently lost most of this traffic to road transport. Freight traffic statistics show the change in type of service provided. Between 1939 and 1968, freight volumes (in tons loaded) decreased from 9.7 million tons to 3.3 million tons, while the average length of haul increased from 116 km to 221 km. A major cause of the decline in traffic has been, of course, the volatile political situation in the last twenty years. The decline in traffic can also be attributed to competition from road transport, including military "civic mission" road vehicles which do not cover costs and lack of interest in marketing in the railway management, and some decline in output since 1939 of a

number of commodities, sugar for example. Considerable differences exist between the various subsystems. On Java/Madura and in South Sumatra the average length of haul is about 265 km, whereas it is 145 km in West Sumatra and 73 km in Atjeh. Small shipment traffic has been declining, but the extent of the decline is indeterminate due to the methods used in data collection.

143. The extension of the average length of haul and the shedding of small-shipment traffic are moves in the right direction, but the remaining scope for typical railways operations is small. In spite of substantial increases during the past two years, railway freight traffic has not reached pre-war levels. Freight statistics (including non-revenue traffic) for selected years are as follows:

<u>Year</u>	<u>Tons Loaded (Thousand)</u>	<u>Ton Kilometer (Million)</u>
1939	9,710	1,126
1959	6,000	1,046
1962 /1	4,418	1,029
1966	2,950	792
1967 /2	2,120	576
1968	3,310	737
1969	4,025	860

/1 From 1962 onwards without traffic on less than 1.067 meter gauge, which is however insignificant.

/2 1967 and 1968 excludes traffic in North Sumatra.

144. Current rail traffic, as indicated in the above table represents a small proportion of total land transport in Indonesia when compared with an estimated 10 to 12 billion ton/km for road transport, although the growth in ton/km from 1966 reverses a steady decline in traffic since 1939. (1969 excludes North Sumatra traffic, but the trend is thought to be upward). Another indication of the modest role of railway freight traffic is the observation that the entire freight traffic presently carried by rail could be handled by about 6,000 five-ton trucks, with a load factor of 60 percent and annual operation per truck of 50,000 km. This would represent a relatively small increment to the existing fleet of 60,000 trucks.

145. Freight traffic densities are extremely low. In 1969 the PNKA carried about 140,000 ton km per route km compared with more than 500,000 in Thailand, East Pakistan and Sudan; densities in Indian European railways far exceed 1 million ton km per route km. The figure for freight traffic densities in Indonesia conceals wide variations in the utilization of different lines. Daily traffic exceeds 1,000 tons on the northern Djakarta-Surabaya connection and the Djakarta-Bandung line. Volumes between 400 and 1,000 tons per day are reached in Java on the extension of the northern line to Rangkasbitung in the west and Rambipudji in the east, on the southern route between Tjilatjap and Surabaya, the north-south connections between

Tjirebon and Tjilatjap and between Semarang and Solo, and on most of the South Sumatra system. The rest of the track which represents about half of the entire system, carries much less freight, with many sections having less than 50 tons per day. A special study of light density lines is now being carried out with a view to abandonment of those considered to be uneconomic.

146. The freight traffic increase experienced in 1968 is continuing in 1970. From 1963 to 1968 freight traffic increased in tonnage by 22 percent and ton/km by 17 percent. This is apparently due to a general revoery of the economy. Railway freight traffic forecasts available indicates that annual growth will be at the rate of 14 percent, or about 90 percent in 5 years. It may be assumed that this general trend will continue, although possibly with lower rates of growth. A more vigorous commercial policy, better service, and an increased number of sidings to plantations would also help to increase the railways' share of traffic.

147. The railway still carries some commodities which it may lose to road transport. There are at present no estimates of rail costs by commodity. in relation to distance of haul. However, international cost comparisons suggest that for most commodities, rail transport is most advantageous over distances beyond 250 km. The following table, which shows the commodities of which more than 10,000 tons were loaded on the railway in 1968, indicates that there are a number of commodities for which the average length of haul is so short that road transport will be able to compete:

<u>Commodity</u>	<u>Tons Loaded (Thousand)</u>	<u>Average Haul (km)</u>
A. <u>Java</u>		
Peanuts	21	667
Soy Beans	41	653
Cement	116	605
Salt	27	489
Sugar (mills)	79	429
Timber	98	397
Palm oil	17	370
Rice and Corn	112	352
Copra	26	312
Fertilizer	187	200
Residues	146	200
Kerosene	306	186
Gasoline and Diesel Fuel	201	178
Molasses	138	159
Tapioca materials	23	151
Fire wood	69	77
Raw limestone	13	76
Tapioca	12	54
Sand	132	30
B. <u>South Sumatra</u>		
Rubber	76	309
Coffee	15	255
Rice	15	235
Kerosene	16	229
Fruits/Vegetables	11	224
Stone	14	137

148. Road transport competition will increase as the highway rehabilitation and development programs continue. Although most inter-city highways have excess capacity, improvement of the highway network is justified by the benefits accruing to traffic which would use the roads in any case. The resulting cost reduction will make it easier for the road transport industry to compete with the railways and draw away some traffic presently carried by the railways without creating a highway capacity problem. There are very few cases where this argument works in favor of the railways. Although there is excess line capacity, major investments may be difficult to justify on the basis of benefits accruing to the limited amount of typical rail freight. However, there are possible projects where line, motive power and rolling stock rehabilitation appears to be well justified. These must be implemented hand-in-hand with management improvements.

149. In the absence of reliable estimates of total present and future land transport demand and without systematic intermodal cost comparisons, it is difficult to draw any conclusions on the future volume of railway freight traffic. However, taking into account commodity composition, length of haul and the expected decrease in road transport cost, it can be expected that rail freight traffic will be about 1.6 billion ton/km at the end of the next five years.

150. Passenger Traffic: The PNKA carries a much larger share of total passenger traffic than it does of total freight traffic in terms of gross ton/km. Although passenger traffic has declined since 1962, the railway still carries about 4 billion passenger km per year, or approximately 14 percent of the total estimated passenger traffic in Indonesia. The following table shows the development of passenger traffic since 1939: The decreases in traffic from 1968 are largely accounted for by a 100 percent increase in fares in May, 1968.

<u>Year</u>	<u>Passengers Embarked (million)</u>	<u>Passenger Km (million)</u>	<u>Average Length of Trip (Km)</u>
1939	58	1,762	30
1959	147	6,297	43
1962	165	7,094	44
1966	95	5,894	62
1967 <u>/1</u>	74	4,739	64
1968 <u>/1</u>	70.4	4,054	58
1969	55.3	3,422	62

/1 Excluding North Sumatra.

151. In 1969, the ratio of passenger km to ton km on the PNKA was approximately 6:1; thus, in spite of the increase in freight traffic and the decrease in passenger traffic in 1969, the PNKA is still very much a passenger railway. However, the receipts from passengers and freight are about equal, Rp. 4.7 billion for passengers and Rp. 4.8 billion for freight in 1969.

152. The average passenger density on the PNKA lines is reasonably comparable with averages in other developing countries. In 1968, there were approximately 580,000 passenger km per route km, excluding North Sumatra. In 1962, when tariffs were very low, the railway attained a level of about 1 million passenger km per route km. The substantial decrease in passenger traffic in 1968 followed a rate increase of about 200 percent in May of that year. The railway is required to allow tariff reductions to certain classifications of passengers; it is estimated that passenger revenue would increase by 12 percent if these passengers were to be charged full fares. In addition, it is reported that slow special trains were operated in some areas without charge to the users. If rates were brought into line with

costs and all users forced to pay full fares, some of the ticketless passengers might still travel, thereby increasing the recorded figures for passenger transport. This might, however, be counterbalanced by paying passengers -- especially those travelling at reduced rates -- foregoing trips. The net effect of these possible changes cannot be quantified, but it appears unlikely that PNKA would regain the volume of passenger traffic of 1962 even taking into account population growth. An increase of 25 percent over present figures during the next five years would bring rail passenger traffic to a ceiling of about 5 billion passenger km, with highest densities on the same lines which carry the greatest freight volumes. A great many passengers, especially military personnel, do not pay any fare. The Consultants estimate that if they did, and taking into account economic and population growth and improved service, passenger traffic would increase by about 90%. This estimate does not seem unreasonable.

153. Track. The relatively low figures for track utilization, about 105,000 ton/km and 580,000 passenger km per kilometer of track, indicate that more traffic could be carried on the existing lines. Line capacity is obviously adequate for current traffic and traffic projected over the next five years, and no new line construction is under consideration. Existing track and bridges are generally in poor to fair condition, imposing severe speed and load limitations. However, recent inspections have shown that it will be necessary to renew bridges on the high density route Tjirebon-Surabaya and track rehabilitation in Sumatra between Palembang and Pandjang.

154. It is estimated that sufficient rail will be available by 1970 for the renewal of 160 km of track. Thirty km of track are in stock and 80 track km of Australian rail are in the process of delivery. An additional 50 km of Japanese rail provided under 1969 project aid are expected to arrive during 1970. Much of the rail being removed from the main lines will be usable on secondary lines; about 35 km of used rail are now in stock. It is estimated that the available rail will absorb the capacity of the railway for track rehabilitation until late 1972 or early 1973. Of particular importance is line renewal between Baturadja and Pandjang (50 kilometers) where the existing rails date from 1880. Track replacement on the entire system is estimated by consultants to require 120 km of rail per year, plus an additional 130 km annually for the next few years to catch up with the backlog.

155. It is, therefore, recommended that new rail commitments be made for the 1971/72 fiscal year. A ballasting, cleaning and tie replacement program is also required. On a system average, 500 cubic meters of ballast per track kilometer is required at a cost of up to Rp 800 per cubic meter in Java and Rp 1,400 per cubic meter in Sumatra. The replacement needs should be based on spot inspection. The Forestry Department is able to provide 250,000-300,000 ties per year at a cost of up to Rp 1,400 per sleeper. This quantity would be sufficient for complete sleeper renewal for about 200 km of track per year. This should be adequate for the most urgent

rehabilitation needs, so that there is no immediate requirement for imported sleepers. 1/

156. The situation in South Sumatra is somewhat different in that about 230 km of rail are reportedly in need of immediate replacement. Traffic volumes in South Sumatra have decreased with the decline in coal traffic which is the result of declining utilization by the railways themselves, as well as others. The justification for complete track rehabilitation needs to be reviewed by the Transport Coordination Advisory Team.

157. Rolling Stock. The PNKA operates 870 steam locomotives, including shunting engines. Except for 100 D 52 locomotives bought during 1951-1954, all these locomotives are of pre-World War II vintage. On the average, no more than 50 percent of the steam locomotive fleet is available for line service. The diesel locomotive fleet is as follows:

<u>Type</u> <u>by HP</u>	<u>Year</u> <u>of Make</u>	<u>Number</u> <u>Bought</u>	<u>Number</u> <u>in Service</u>
1600	1953	27	19
1500	1964	45	44
1425	1964	11	11
1000	1967	3	3
875	1955	35	32
680	1958	30	25
350	1967	20	20
340	1958	30	29
340	1961	<u>80</u>	<u>75</u>
		<u>281</u>	<u>258</u>

In 1967, when 272 diesel locomotives were in service, they operated about 52,000 km per day, whereas steam locomotives operated about 5,500 km per day on the average. The German railway team estimates that, assuming engine availability of 80 to 85 percent, about 40 to 50 additional diesel locomotives would be required to carry main line traffic at a cost of about \$10 million. It is important, however, to coordinate the purchases with rationalization of workshop programs and running schedules.

158. There is no doubt that operational and administrative improvements could considerably reduce locomotive requirements. In 1969 the average net load per freight train was about 50 tons in Java, 45 tons in South Sumatra,

1/ It is noted that ties are made of teak wood, also that much of the fuel of steam locomotives is teak. These are reportedly bought at concessionary prices. The use of teak for these purposes would appear to be sheer economic waste. The Government has proposed the construction of a concrete tie plant but the economics of using concrete as against cheaper types of wood need careful consideration.

10 tons in West Sumatra and 20 tons in Atjeh. The average number of passengers per train was about 290 in Java, 130 in South Sumatra, 70 in West Sumatra and 110 in Atjeh. If movement patterns could be so organized as to result in train-load averages comparable to those achieved in other countries, the existing tractive power could be much more efficiently used. Assuming an average net tonnage per train of 300 tons and average line haul engine utilization of 150 km per day, 1 billion ton/km per year could be handled by about 60 heavy locomotives. Five billion passenger km would require about 230 locomotives if the average number of passengers per train were 300, and engines were used 200 km per day. Although these figures are purely illustrative and may have to be adjusted to allow for commodity composition, bearing capacity restrictions of track and the fact that almost all lines are single track, they show that additional studies are required to arrive at optimum movement patterns and minimum tractive power requirements. It is also obvious that many of the steam locomotives presently in use could be scrapped without replacement. This is not to say that further acquisition of diesel locomotives is unjustified.

159. Operating and repaid cost reductions make the replacement of steam locomotives by diesel locomotives an economically viable proposition if total tractive requirements are not exceeded. While the mission is not yet in a position to judge total requirements after operational improvements, it can be said that the acquisition of a few diesel locomotives of the 1,000 hp class will not be in excess of immediate requirements.

160. The PNKA has a total of 22,500 two-axle freight wagons with an average load capacity of 12 tons. Of these 16,500 have wooden bodies and are of pre-World War II vintage; most of them are over 40 years old. Only 4,000 to 5,000 of these older wagons are normally in service. Of the 6,000 new steel wagons, 4,000 are normally in service. PNKA estimates that the equivalent of 9,000 new wagons would be required to handle its present traffic. At present there is, therefore, apparently a freight car deficiency. However, given an adequate supply of spare parts, enough can be repaired by 1972 to handle all freight traffic. In order to increase capacity (and also to improve safety) airbrakes should be installed on 7,800 cars and repaired on 1,200 cars over the next 5 years. Immediate requirements are the installation of airbrakes on 550 cars which were purchased in 1961. The remaining cars are either too old to make the investment worthwhile or are already equipped.

161. Passenger coaches are sufficient to accommodate present and future traffic. Out of a total of 3,400 coaches, 95 percent are normally in service although many of the old coaches used on secondary lines are in need of repair. A project has been prepared by consultants to upgrade coaches at a cost of about \$1.4 million.

162. Operational improvements could also reduce freight and passenger car requirements. At present freight transit times are far too long, which makes rail transport unattractive to shippers. It is difficult to give a meaningful figure for wagon turn-around time since the ratio of total loadings to number of wagons depends on the estimate of "available" wagons.

The lower the assumed number of available wagons, the better the turn-around will appear. The same observation is true for the number of wagon km per day. Based on a freight wagon availability of 17,600 units, turn-around time in the first 6 months of 1968 was calculated to be about 20 days, and the number of wagon km per wagon day was about 17. However, Deconsult estimates that 60% of wagons reach their destinations within three days, which indicates a considerable amount of idle time. Although these estimates may be too high as a result of inflated figures for available wagons, they show that there is scope for much improvement in freight car utilization.

163. Financial Results and Costs. The existing tariffs, although recently increased, are insufficient to cover direct operating expenditures for rail operations. Even though the allocation for maintenance and repair was unrealistically low, the consultants estimate a loss of Rp 95 million in 1969.

164. Staff costs account for about 50 percent of total recorded costs. However, there is much scope for the reduction of staff as labor produced only about 60,000 passenger km and 9,500 ton/km per man per year. PNKA is legally required to retain its staff and, therefore, has to rely on attrition to reduce its staff in the future. During the next five years about 9,000 men will be due for retirement. One alleviating measure could be to retrain staff that is presently idle to take over much of the maintenance and rehabilitation work for which PNKA now uses contractors. On the other hand, PNKA is also required to cease hiring new staff. This has led to key positions, especially those of technicians, remaining unfilled.

165. Maintenance expenditures will have to be increased substantially in the future. The present low maintenance allocations reduce the operating deficit which must be borne by the Government but this results in more expensive rehabilitation projects for which the Government pays through the development budget. Estimates of requirements for backlog expenditures have been prepared by the Consultants.

166. The German railway team is presently undertaking an analysis of possible cost reduction expected to result from operating improvements and capital investments. Thus far, cost comparisons have been completed for only one line, between Djakarta and Bandung, though calculations for the entire system will be available shortly. The following assumptions and procedures were used:

- a. interest 12 percent per annum;
- b. maintenance costs increased to represent adequate maintenance;
- c. depreciation on a straight-line basis, and based on replacement cost;
- d. assumed lifetime:

diesel locomotive	30 years
steam locomotive	40 years
passenger wagon	25 years
freight wagon	32 years
rails	40 years
sleepers	20 years
ballast	40 years
earthworks	100 years
- e. overhead distributed to lines on the basis of direct labor costs;
- f. depreciation and interest allocated to lines on the basis of the equipment used on each line; and
- g. joint costs allocated on the basis of gross tons in passenger and freight service, modified by a speed factor.

<u>Cost Results</u> (Djakarta-Bandung Line)	<u>Existing System</u> (Rp)	<u>Improved System</u> (Rp)
Cost per gross T/km, passenger train	2.7	2.3
Cost per gross T/km, freight train	2.9	1.8
Cost per train km, passenger train	744.0	668.0
Cost per train km, freight train	1345.0	823.0
Total cost per passenger km	2.0	1.83
Direct cost per passenger km	0.8	0.6
Depreciation per passenger km	0.3	0.29
Interest per passenger km	1.0	0.94
Total cost per net freight T/km	8.7	5.4

167. These cost comparisons are not representative for the entire system. In addition, comparisons of financial costs in which capital costs are distributed over the lifetime of the investments disregard the weight of present investment expenditures in the cost streams to be compared. For purposes of economic justification of particular investments in track telecommunications and rolling stock a discounted cash flow analysis will be required.

168. Conclusions. The available data are not sufficient to determine the future role of the railways, nor to establish a comprehensive railway investment program. This must await the completion of the current survey and the comparison of the benefits of investments in the railways system with those in competing transport modes. However, it seems likely that the role of rail transport could be limited in the future due to the lack of sufficient typical railway transport requirements and the increasing cost advantages of road transport in short distance transport requirements. Passenger transport will probably remain the major business of PNKA. The limited volume of traffic, say 0.75 to 1 billion ton/km and 4-5 billion passenger km, could be handled for another few years without the investments which would be required to modernize the entire system. The strategy of the PNKA in the short run should be to ensure that the backlog of spare parts, rail fittings, etc. is acquired in order to keep existing facilities operating; study the economies of the abandonment of uneconomic lines, and to study the economies of the replacement of steam with diesel locomotives. Large investments should be avoided and operating costs reduced by implementing operational improvements. With limited rehabilitation of track, rolling stock and telecommunication facilities and the acquisition of a few diesel locomotives, the PNKA should be able to provide adequate services and cover its costs at least for the main lines. This reasoning is accepted by the PNKA and a relatively modest investment program has been proposed.

Road and Road Transport

169. Roads. The highway network of about 82,000 km of roads of all standards and classifications supports annual traffic volumes of 10 to 12 billion ton km and some 25 billion passenger km. The riding quality of most of the system is poor, whether on paved roads, of which there are about 15,000 km, or on the 67,000 km of gravel and earth roads. The bearing capacities and geometric standards of the existing system were designed for the volumes and vehicle types of pre-World War II traffic and are largely unsatisfactory now. These roads have had to bear increasingly heavier traffic virtually without maintenance for many years. As a result, the less robust pavements have rutted and broken up, and have often become gravel roads which are difficult for vehicles to negotiate. Unpaved roads have reverted to potholed tracks allowing trip speeds of no more than 15 km per hour in many cases. Some roads have become impassable, entirely isolating producing areas from their markets. While masonry and concrete bridges have normally stood up well, most steel bridges show the effect of inadequate maintenance. Many of them are dangerously corroded and others, especially in Sulawesi and Sumatra, have collapsed. A large number of timber bridges also need replacement.

170. The investment requirements for highways are so large that a careful evaluation of priorities is necessary. The UNDP is financing a study, the "1968-70 Highway Services", for which the IBRD is the executing agency, to determine investment priorities for highways and assist in planning effective highway administration and the implementation of proposed projects. The consultants have completed an inventory of the most important roads and

established an investment program for the rehabilitation of about 12,000 km of highways, and a maintenance program for about 29,000 km. Based on the consultants' recommendations, the International Development Association has made a credit of US\$28 million to help rehabilitate about 3,000 km of roads of highest priority in five provinces, improve maintenance in these five and a further 15 provinces, and to rehabilitate and re-equip workshops in 20 provinces. The credit also provides sufficient funds for the implementation of pilot training programs and technical assistance in all phases of highway work. The US Agency for International Development will participate with a credit of about US\$1.2 million to assist in financing the establishment of five base workshops and 20 laboratories. Japan is financing the rehabilitation of roads in two additional provinces, North Sumatra and Central Java.

171. Although highway standards should be improved gradually, the rehabilitation of existing roads has the highest priority for the immediate future. The restoration of the surfaces of existing roads results in reduction of vehicle operating cost very quickly. According to the consultants' findings, there are about 6,000 km of roads for which the benefits in the first year after rehabilitation exceed half of the investment cost. Only those roads for which the ratio between first year benefits and costs exceeds 25 percent have been included in the rehabilitation program.

172. Rehabilitation works include operations which would normally be executed as part of routine and periodic maintenance. However, improved maintenance is required for the entire system to arrest the deterioration which is still continuing on most roads, and to prevent the recurrence of deterioration of the rehabilitated roads. Equipment financed from the proceeds of IDA and USAID and Japanese credits will arrive during 1971. Budget allocation for the provision of domestic materials and services will have to be substantially increased to make efficient use of the new equipment. As a minimum, expenditures for improved maintenance of 25,000 km of national and provincial roads should be Rp 4.5 billion, or the equivalent of about US\$500 per kilometer.

173. The Government's ability to execute the proposed rehabilitation and maintenance works will be strained during 1971/72 but with foreign advisors the necessary work can be accomplished. Adequately trained personnel are scarce at all levels in central and provincial highway departments. Planning, engineering and supervisory capacities as well as the number of technicians, foremen and equipment operators cannot easily be increased rapidly. The technical support services to be financed under the IDA and Japanese credit will provide a measure of relief but the major burden will have to be carried by Indonesian staff. The consultants' inventory disclosed an almost complete absence of operational rehabilitation and maintenance equipment and the new equipment will not arrive before the beginning of 1971. For these reasons the entire program for 1971 may prove to be somewhat optimistic.

174. In the assessment of implementation capacities, some room has been left for the implementation of urgent road upgrading and reconstruction projects. However, these works should be kept to a minimum. This type of work would be suitable for execution by contractors, but Indonesia does not now have a well-developed road construction industry. The few existing contracting firms are either Government-owned or, if in private hands, have to lease the necessary equipment from the Government. The road construction industry, therefore, draws on the staff and equipment resources of the Government and does not appreciably increase the available implementation capacity. Provided that appropriate bidding procedures are followed, a beginning can, and will, be made in developing an efficient contracting industry after the arrival of the new equipment, but during the next year the bulk of upgrading, rehabilitation, and maintenance works will have to be carried out by departmental forces.

175. The proposed upgrading works have not been appropriately planned on the basis of technical and economic studies. Cost estimates are available for three different types of upgrading works, with the overall average cost equivalent to about US\$25,000 per kilometer. Although detailed descriptions of the operations to be performed are not available, it appears that most of these expenditures will be for surface improvements, occasionally accompanied by minor improvements in geometry and widening of pavements. Benefits attributable to these investments will not substantially exceed those expected from rehabilitation. Taking into account the difference in investment costs between rehabilitation and upgrading, the rates of return for upgrading projects will, in many cases, be no more than about a third of the rates of return attainable on rehabilitation investment.

176. The UNDP Highway Services have undertaken a survey of about 5,600 km of roads and are conducting technical and economic feasibility studies of road rehabilitation on those sections which have the highest priorities. In 1970 a development program for rehabilitation and construction of roads has been established on the basis of investigations of soil conditions, material requirements and alignment alternatives. Most of the recommended projects and studies have been visited by members of the Resident Mission. All but one of the projects have received commitments from bilateral sources or are likely candidates for Bank commitment in 1971.

177. In the course of preparing a highway development program, the consultants are investigating the costs and benefits of improvements in highway standards, with emphasis on increases in bearing capacities. According to the official highway classification, only about 1,268 km of roads, or 3 percent, have axle load capacities of 5 tons or more; another 8,466 km, or 14 percent, are designed for axle loads of 3.5 tons. However, these are conservative measures for the true existing bearing capacities, and the failure of so many roads is due more to inadequate maintenance, especially of drainage, than to insufficient structural standards. Except for bridges, which were designed for similarly low axle loads, the problem is not one of imminent physical failure. The major concern is to determine the optimum balance between future investment and maintenance costs for highways, and the cost of vehicle operation. Increased axle loads, weights and dimensions of vehicles result in operating cost reductions per ton of capacity. On

good paved surfaces, the average economic cost of transport per ton km by two-axled trucks would be around Rp 9.5 with an axle load of 3.5 tons. An increase in axle load to 7 tons results in a cost reduction of about Rp 2 per ton km and further increase in axle load from 7 to 10 tons would result in additional savings of Rp 1 per ton km. The ongoing studies will determine the incremental investment costs for different levels of highway bearing capacity and the effect of the improvements on the lifetime of the road expressed in numbers of axle passages. This will permit economic comparisons of construction costs with benefits to road users, based on savings per ton km and traffic volumes on particular roads. Upgrading and reconstruction of roads will, therefore, result in new highway classification standards.

178. The present analysis of maintenance, rehabilitation and upgrading projects is restricted to the main roads, comprising all national and the majority of provincial roads. Although no systematic inventory has been made of feeder roads, spot inspections show that they have deteriorated even more than the main road system. Some village and district work programs are being undertaken, but funds are insufficient and technical help is required from the provincial works administrations. The Central Government has undertaken to finance the entire rehabilitation and maintenance program for main roads, but has also made funds available to the Kabupatens (Districts) and villages for the rehabilitation and maintenance of feeder roads. It is recommended that programs be set up for the training of foremen and technical staff who could later be delegated to prepare and supervise village road programs.

179. Road Transport. The development of the road transport fleet is difficult to assess, since the Government collects few statistics on the road transport industry and private vehicles. According to State Police records, the road transport fleet January 1969 totalled about 315,000 vehicles, consisting of about 201,000 cars, 95,000 trucks and 19,000 buses. In addition, there were about 310,000 registered motorcycles. However, records of periodic inspections indicate that only about 60,000 trucks and 11,000 buses are actually in use. The rest of the registered truck and bus fleet is inoperative. This is due to the age of the fleet and difficulties in procuring spare parts for the estimated 75 different makes of vehicles; about 65 percent of the trucks now in use are more than 9 years old.

180. Replacement of trucks and buses will be one of the major problems of the road transport industry during the next few years. Normal replacement requirements would amount to some 8,000 units per year. Since more than half of the truck and bus fleet is obsolete and should be replaced as soon as possible, total requirements will be between 12,000 and 15,000 units per year, depending on the speed with which the replacement backlog is to be eliminated. Taking into account the future long-term growth of road transport demand, which is estimated to be about 6 percent per year, it can be expected that annual requirements will remain in the range of 12,000-15,000 units even after elimination of the replacement backlog. The renewal and expansion of the road transport fleet has been and still is hampered by the lack of adequate credit facilities. Financing of vehicle imports by

bilateral aid from the United States and Japan is available. However, truckers are extremely reluctant to borrow for financing purposes due to high interest rates.

181. The earning capacity of the road transport industry is still insufficient. Vehicle operation in Indonesia is expensive as a result of poor road surface conditions and the use of small vehicles with an average load capacity of 3.5 tons. Regulated tariffs average Rp 10 per ton km in Java and Bali, Rp 15 in Sumatra and Rp 20 in Sulawesi. Passenger tariffs are generally Rp 1 per passenger km. Those tariffs will be too low to provide sufficient revenues to cover financial costs until such time as the road rehabilitation and maintenance programs are completed. New trucks are being purchased, however, but generally they do not earn sufficient revenue to earn renewal costs. Although tariffs established by provincial administrations are not strictly enforced, truckers find it difficult to adjust tariffs to costs since vehicles owned by the armed forces participate in commercial road transport and generally offer lower rates. In order to prevent further disinvestment in the private road transport industry, some arrangement will have to be made with the armed forces to ensure that all entities providing road transport services compete on an equal basis.

182. The responsibility for the regulation and control of road transport rests with the Ministry of Communication. Generally, no efforts are being made to restrict the growth of road transport in favor of other modes of transport; freedom of entry is accepted, and the only effectively enforced road and capacity restrictions concern passenger transport by buses. While the mission recommends a minimum of regulatory intervention a tightening of technical controls appears necessary. Periodic vehicle inspection should be enforced much more vigorously. At present, driving conditions are hazardous as many vehicles are operated with defective brakes and lights, and with completely worn tires. A review of national policies on vehicle weights and dimensions is urgently required to protect roads and bridges. Load controls should be applied to all entities participating in road transport and controls by the few existing weigh stations should be supplemented by spot controls using portable loadometers.

D. Marine Transportation

183. There are very few statistics on the volume and composition of shipping traffic in Indonesia which are readily available. In 1969 total inter-island dry cargo handled by the ports was about 5 million metric tons, consisting of 3.1 million tons in domestic trade and 1.9 million in trade with the Malayan penninsular. It is estimated that international trade totalled about 4.5 million tons. All these figures include packed mineral oil and oil products. It is estimated that in 1969 in inter-island trade 800,000 tons was carried in barges and sailing vessels, 1.6 million tons in powered coasters, 1.6 million by the regular inter-island fleet and military vessels, 50,000 tons in ocean going flag vessels and 950,000 tons in foreign flag ships. The average length of haul for all cargo was about 970 km in 1957. It is estimated that a total of 7.2 billion ton km were carried in 1957, of which 4.3 billion were dry cargo. A more recent estimate of tonnage, prepared by the Department of Communication, indicates

that 4.8 million tons of dry cargo were carried in the inter-island trade in 1967 while ton miles in inter-island trade totaled 2 billion. This is reasonably comparable with the estimate of 4.3 million tons in 1957; assuming that average lengths of haul remained constant, it could be estimated that approximately 4.5 billion ton km of dry cargo were carried in 1967.

184. There are no exact data available regarding the commodity composition of inter-island trade, but the major commodities carried are petroleum products, rice, copra, cement, flour, fertilizers, coconut oil, cattle, salt, rubber, asphalt, logs, lumber and general goods. The basic material for marine traffic statistics is available in the form of ship records and customs documents. The Central Bureau of Statistics processed this material and published data on marine traffic in 1970, which will not permit the determination by commodity of tons and ton-kilometers carried.

185. Ports: There are approximately 300 ports in Indonesia, but only about 20 of these have facilities and water depths such that ships of more than 500 tons can load and unload at quayside. The major dry cargo ports, at Tandjung Priok, Belawan and Surabaya, have approximately 2,000 ship calls each per year by powered vessels, while Palembang, the major port for petroleum products, has about 3,200 ship calls per year, of which 1,900 are tankers.

186. Although the design capacities of the ports are generally adequate to handle existing traffic, the port infrastructures and ship servicing facilities are in poor condition due to lack of normal maintenance and repair. Water supply and fuel services are inadequate even in the three major ports, and are non-existent in many of the minor ports. Terminal structures, breakwaters, piling, port area roads and pier aprons, electrical supply system, telecommunications, navigational aids and other facilities have seriously deteriorated. There is no question that a large amount of rehabilitation and replacement is necessary throughout the port system, and the Department of Communications has proposed a number of programs requiring foreign financing to undertake the work. However, many of the projects have not been clearly defined because the traffic at the various ports, the specific needs at each port and the cost of the required works are not yet known.

187. The Directorate-General of Sea Communications has proposed a program for the growth of the general rehabilitation of ten major ports which handle about 85 percent of Indonesia's traffic. Preliminary estimates of port rehabilitation costs have been prepared by Consultants but these must be regarded as being tentative. The largest item in the proposed investments is in the rehabilitation of quay walls, sheds and pavements. The rehabilitation program for the FY1971-72 amounts to \$8.7 million. The Consultants have so far prepared feasibility studies for the two most important port rehabilitation projects, Tandjong Priok and Surabaya. A further feasibility study for the rehabilitation of a further eight ports will be prepared within the next 12 months.

188. Other programs are concerned with the rehabilitation of ship repair docks, rehabilitation of the inter-island fleet, the building of new inter-island ships, rehabilitation of navigational aids, rehabilitation of dredges (and in the docking period, the procurement of contract dredging). All these projects are important and will be presented at the forthcoming IGGI meeting. Coupled with technical assistance to prepare feasibility studies all of these projects are expected to be economically sound. Commitments for project aid can be expected in the coming financial year.

189. A major obstacle to the efficient operation of shipping is the administrative set-up. There are at present four agencies who have overlapping operational responsibilities in the port and shipping sectors. The situation is extremely unsatisfactory in that it leads to bureaucratic delays, high costs and inter-departmental squabbles. Any lending program, whether by a bilateral donor country or a multilateral agency should bear the administrative inefficiencies in mind with a view to improvement.

190. Dredging: Annual maintenance dredging requirements for harbor basins and entrance channels in Indonesia are estimated to be about 16 million cubic meters. During the last ten years before 1970 the annual output of the Indonesian dredging fleet never came close to meeting maintenance dredging requirements. In some years no more than 7 million cubic meters of spoil were removed. The resulting backlog cannot at present be accurately estimated but consultants consider that at least a year's contract dredging is required to supplement the regular dredging fleet. Detailed surveys of all major harbor basins and entrance channels are still required to determine the exact volume and location of accumulated spoil to be removed, but it is obvious that the extent of the backlog problem calls for large contracts with foreign dredging concerns, estimated at about \$2 million in FY1971/72.

191. During 1968 the output of the Indonesian dredging fleet has substantially increased. For the first time in a decade the recorded output was more than 15 million cubic meters. There are however some doubts as to the accuracy of output records. Even if the figures for 1968 are accepted, wide fluctuations in annual output must be expected. Given present operational practices and the poor condition of the dredging fleet, it is reasonable to expect that the present fleet could remove some 14 million cubic meters of spoil per year on the average.

192. At present the Indonesian dredging fleet consists of 24 vessels comprising drag suction, bucket and cutter suction dredgers and clamshell dredgers of the pontoon type. They are based mostly at three stations in Tandjung Priok, Surabaya and Belawan. Although a dredge repair program was implemented at a foreign exchange cost of about US\$225,000 in 1968 and 1969, most of the available dredgers require thorough overhaul and rehabilitation. A detailed rehabilitation program has been worked out with the assistance of the UN Dredging Advisor and the NEDECO team of Consultants. The cost of the program is US\$10.5 million for FY1971/72. This includes rehabilitation of three dredges, for contract dredging, progress payments on a new dredge and barges. Within this program it is proposed

to replace the "Sulawesi" by a new dredger with a hopper capacity of 2,500 cubic meters per hour. The cost of this dredger is estimated to be about US\$4.8 million. Delivery of the dredger is expected for end-1973. After the implementation of the dredger rehabilitation program and the introduction of some operational improvements, the capacity of the existing fleet could be about 15.5 million cubic meters per year. The net effect of replacing the "Sulawesi" by a new dredger would be a capacity addition of about 2.0 million cubic meters so that from 1974 onwards the Indonesian fleet will be capable of removing some 17.5 million cubic meters of spoil per year. By that time additional capital dredging, of which the River Musi project has the highest priority, will have been implemented; as a result, annual maintenance requirements will increase. They are expected to exceed 17.5 million cubic meters by 1974.

193. The Government of the Netherlands is financing a dredging survey to be implemented during 1970 and 1971. The consultants will conduct the necessary technical and economic studies to determine the maintenance dredging requirement to establish a capital dredging program, and assist in the rehabilitation and operation of the Indonesian dredging fleet. Present operation plans for the Indonesian dredging fleet and the above rehabilitation and replacement project are being reviewed by the Dutch dredging team and the results are expected early in 1971.

194. The shortage of rupiah funds and the cumbersome disbursement procedures are at present the major difficulties. While salaries of dredging crews are being paid by port authorities, funds for the maintenance, repair and operation of the dredgers are budgeted by the Directorate-General of Sea Communications. Supplementary funds are available from the oil and tin concerns, as well as the Ministry of Mines. In the past this system has not worked efficiently and dredgers were often laid up when funds from one or the other source would not be forthcoming. It is planned to revise the present system so that dredging expenditures would have to be met from the resources of port authorities. However, the year 1971/72 will be a transitional period and development budget allocations for the operation, maintenance and repair of dredgers will have to be in the order of Rp 1,500 million.

195. The Shipping Fleet: Indonesian commercial shipping is divided into four categories:

	<u>Number of Ships</u>	<u>Tonnage</u>
(1) Foreign trade	51	435,818
(2) Inter-island trade	245	275,000
(3) Coastal shipping	414	42,383
(4) Sailing vessels	17,000	390,000
(5) Civil Mission (military vessels)	85	105,000

It is estimated by Consultants that only about one-half of the total tonnage is operational and this half carries only about 8 tons of cargo per deadweight ton per year in inter-island trade. A more normal figure for such trade is 15 tons per deadweight ton. However, even after rehabilitation, scrappage and growth of traffic will require the building of a small number of new ships, according to the Consultants. It is also apparent that fast specialized roll-on-roll-off types of ships are required to serve between the major ports. Studies on these project possibilities are included in the technical assistance aid being requested.

196. The above fleet given in paragraph does not include 58 tankers owned by Pertamina with a total capacity of about 624,000 tons. It is reported that Pertamina is planning to add to the tanker fleet in the near future. Many of the dry ships in the cargo fleet are very old and the majority are in poor condition. At present, however, there is not sufficient information to support large expenditures on ship rehabilitation and replacement. Traffic figures are very rough estimates at best, and there is a lack of information on the proportion of the fleet which is operational and on the rehabilitation needs of particular dry cargo vessels. The Dutch shipping advisors have started a study of shipping traffic and an inventory of the fleet. Their work will go far toward indicating present and forecast traffic, routing problems, ship operating costs and the characteristics and condition of the existing fleet. In order to retain flexibility for the implementation of their recommendations, the mission suggests that the Government proceed cautiously with investment plans pending the results of the study, especially in view of the apparent overcapacity in the shipping fleet.

197. There is little question that the utilization of the existing fleet could be improved by operational and administrative improvements, assuming there were sufficient traffic demand. In an attempt to organize the existing capacity more efficiently, the Government has established the Joint Operational Body for Inter-Island Shipping (BOPERPAN) with the objectives of coordinating inter-island shipping and establishing scheduled services. This agency will not attempt to organize the whole of the inter-island trade, but will start with the coordination of 185 ships belonging to 44 companies. The plan is scheduled to go into effect in 1970 and it is still too early to predict the results.

198. There is very little information on ship operating costs in Indonesia, although more data are expected in early 1970 when the Dutch shipping advisors will be further advanced in their study. Preliminary calculations made by the Transport Coordination Advisory Services team indicate costs ranging from about Rp 1.9 or US cents .57 per ton kilometer for a 4,950-ton ship, and Rp 4.7 or US cents 1.44 for a 720 ship. These calculations assume load factors of 30 percent and time at sea of 100 days per year. Freight tariffs vary with the commodity classification and length of haul. The tariff published by BOPERPAN in March 1969 specifies Rp 4.8 or US cents 1.48 per ton km for a haul of 400 km and Rp 1.3 or US cents 0.4 for a haul of 2,500 km. These tariffs relate to class AA commodities, which have the lowest freight rates. The corresponding tariffs for class HH goods, which carry the highest rates, are Rp 19.9 or US cents 6.1 and Rp 7 or US cents 2.26 per ton km.

E. Civil Aviation

199. Airline Operation: There are eleven scheduled airlines in Indonesia, and 11 non-scheduled carriers. The largest carrier is the nationally owned Garuda. Sixteen international air carriers serve Indonesia but their operations are limited to two airports Kemajoran/Djakarta and Ngurah Rai/Bali. Due to the long distances between islands and the inaccessibility of the interior of some larger islands, air transport is of growing importance. The scheduled airlines of Indonesia have therefore embarked on expansion and modernization programs to meet future demand and to improve services. Five international carriers have introduced new services to Indonesia during the last year. Pan American will shortly introduce service to Bali to serve the growing tourist trade.

200. Garuda Airlines is Indonesia's flag carrier. It operates a network of both domestic and international routes. On its international flights Garuda has a pooling arrangement with KLM. Under this arrangement Garuda uses two DC-8 aircraft of KLM with Indonesian pilots. Reportedly Garuda earns a profit from international, but not in domestic, operations. On international and domestic routes Garuda used the following aircraft in November 1970:

6 Convair 340	2 DC-9
3 Convair 440	2 Electra
9 DC-3	11 Fokken F-27
2 Convair 990	2 DC-8 (Dry lease)

The modernization program of 1970/71 will result in the replacement of all present propeller aircraft. The acquisition of two additional DC-9's is tentatively scheduled for 1971.

201. Garuda expects to use the modernized fleet in 1971 for a total of about 38,000 hours, divided as follows:

2 DC-8's	8,330 hours
2 DC-9's	5,080 hours
2 Electras	2,800 hours
11 F-27's	22,650 hours

The daily rate of utilization programmed for the F-27's (6 hours 30 min.) is quite good. The Electra utilization (4 hours) is low since they will be used in part as back-up aircraft for the DC-9's. The estimated DC-9 utilization for 1970 is 7 hours 10 minutes which compares with an average of 9 to 10 hours for DC-9's used by airlines in the United States.

202. In terms of passenger seat kilometers the acquisition of the new aircraft increased the capacity of the domestic fleet by 70 percent in 1970. Traffic will have to grow substantially to permit the efficient utilization of the modernized fleet but this is no problem. As shown below, the performance of Garuda in domestic operations during recent years does not suggest a pattern of consistent traffic growth.

	<u>1962</u>	<u>1964</u>	<u>1966</u>	<u>1967</u>	<u>1968</u>	<u>1969</u>
Hours flown (1,000)	23.0	27.1	20.8	27.1	33.9	30.2
Passengers carried (1,000)	314	389	303	334	359	399
Passenger km (million)	239.7	331.6	269.2	292.6	285.7	n.a.
Passenger load factor (%)	80	81	79	72	64	n.a.
Ton km (million)	22.5	31.5	24.0	26.3	26.2	31.4
Weight load factor (%)	77	70	68	64	59	68

203. The past performance of Garuda is not a good measure for possible growth of air transport in Indonesia. Limitation of airport infrastructure and the fact that many airports cease operations in the early afternoon hours contributed to the difficulties Garuda had in meeting air transport requirements. Garuda flight schedules became increasingly erratic as a result of difficulties in procuring spare parts for the largely obsolete fleet. The lack of administrative direction led to faulty bookings, and customers were often told that flights were fully booked while seats were in fact available. However, under new management, supported by a Dutch aviation advisory team, planning and the quality of service provided have very noticeably improved during 1969 and 1970.

204. The future route schedule has been developed on the basis of a careful assessment of traffic potentials route by route; with the modernized fleet and continuing improvements in management Garuda should be able to attain rates of traffic growth approaching 15 percent per year and possibly more.

205. Profit and Loss Statements for recent years are not available but domestic operations are certainly not profitable. The operating budget for 1969 envisaged a deficit of about Rp 910 million for domestic operations; profit from international operations and charter flights should have exceeded these losses, and Garuda expected a profit before taxes of Rp 400 million. Preliminary data now available for 1969 indicate, however, that Garuda probably will not make a profit this year. The primary reason for the difference from the figures projected in the 1969 budget is that Garuda was not able to fly the number of revenue hours it originally estimated due to the need to train air crew for its new aircraft and hence had to curtail its domestic services in the latter part of 1969. Operating on commercial principles, Garuda is making an effort to account for depreciation and interest. The 1969 budget included an allowance of Rp 1,145 million for these items. In the long run Garuda should be able to earn enough funds to maintain and renew its fleet, and to reduce the degree of subsidization of domestic by international operations.

206. The present rate structure for air travel does not appear to have any rational basis. For example, the fare per seat km equals Rp 8.6 between Djakarta and Surabaya, Rp 13.5 between Djakarta and Medan, and Rp 16.5 between Djambi and Palembang. Fare adjustments, both upwards and downwards, have been requested, but they have not been granted. Garuda, however, has in effect managed a fare increase. Since Garuda is introducing F-27 aircraft tariffs have been increased to the rates presently charged for Electra flights. However, tariffs for DC-9 service are equal to those presently charged for travel in Electras so that there will be no difference in tariffs between DC-9 and F-27 services. It is obvious that the future rate structure for air travel should be based on the cost of service provided. At present, however, the operating costs of F-27 and DC-9 cannot be accurately determined due to lack of empirical data on the cost of operating these aircraft in Indonesia, particularly of such items as maintenance and aircraft utilization. As an interim solution, rates could be adjusted to approximately Rp 13 per seat km which is within the range of rates (US\$3.7 to 3.9 cents per seat km) charged in most countries. Rate competition with other airlines is not permitted.

207. Merpati Nusantara, the next largest scheduled air carrier in Indonesia, basically flies a feeder route structure which is located principally in the eastern part of the archipelago and West Irian. The airline operates 28 planes, all propellor driven and mostly STOL. It operates mainly small twin engine aircraft including DC-3's, Twin Otters and Beavers. Merpati's West Irian operations are subsidized by the Government. All airlines except Garuda are headed by military officers.

208. Aviation Infrastructure: In Indonesia there are 38 civil airports plus a number of military or joint usage facilities which are used by civil aircraft. Runway lengths and surface types of even the major airports in Indonesia vary considerably as shown in the following breakdown:

<u>Airport</u>	<u>Runway Length</u> (feet)	<u>Surface Type</u>
Djakarta	8,000	Asphalt
Surabaya	10,000	"
Medan	8,000	"
Denpasar	10,000	"
Makassar	5,700	"
Biak	11,700	Bitumen
Ambon	5,400	Asphalt
Jogjakarta	6,000	"
Padang	4,900	Concrete
Pekanbaru	4,900	Asphalt
Djambi	3,600	Gravel
Palembank	5,000	Asphalt
Pontianak	4,700	"
Bandjarmasin	5,650	"
Balikipapan	3,800	Perforated Steel plates
Kupang	4,200	Grass

209. The airports listed above are significant because they are the facilities where Garuda has introduced DC-9 or F-27 operations recently. These aircraft normally require a paved surface and a 8,000-foot runway for DC-9's and a 6,000-foot runway for F-27's. In recognition of the need to improve airports in order to permit efficient utilization of new types of aircraft 18 airports have been selected for upgrading. The improvements which consist primarily of lengthening runways and improving their surfaces were scheduled for implementation in 1970. Apparently work has not been started on these projects and it is doubtful whether this program will be fully undertaken in 1970/71.

210. From a viewpoint of permitting maximum utilization of the new aircraft being acquired by Garuda the following is a list, in order of priority, of the minimum airport improvements required:

<u>Airport</u>	<u>Requirements</u>
Bandjarmasin	Runway extension and facilities for night operations. DC-9 service probable 1970.
Makassar	Runway extension, night operation facilities and navigational aids. DC-9 will begin operations in 1969 but with limitations on payload.
Palembang	Runway extension and night operation facilities. F-27's schedule for daily frequencies in 1970; DC-9's scheduled for 1971.
Padang	Runway extension and night operation facilities. DC-9 service contemplated in 1970.
Ambon	Alternate for Biak, presently flying Electras.
Menado	Several restrictions apply due to terrain and long distance from alternates.

211. The above list represents only the most urgent requirements, mainly for runway improvements which involve primarily rupiah expenditures. However, there are other investment requirements which involve foreign exchange expenditures. The Directorate-General has submitted a project aid request for telecommunication and navigational aids, electrical equipment, fire fighting equipment and meteorological equipment. These project aid requests are not based on adequate technical and economic studies. In addition, the manner in which expenditures are classified in the budget makes it impossible to determine rupiah requirements associated with a particular project request, or to relate the rupiah expenditure required at each airport to implement a specific development project such as runway improvements, night lighting, telecommunication, electricity, etc.

212. Technical assistance is urgently required for a review of the entire investment program for aviation infrastructure, and the establishment of appropriate procedures for the identification, preparation and implementation control of high priority projects. Field work, by a Canadian consulting team, should begin early in 1971 to determine the most urgent project aid commitments during 1971/72. Airport improvements should be started as soon as possible. Failure to implement high priority programs scheduled to begin in 1971 will result in lower utilization and reduced payload of new aircraft.

CHAPTER 4

PUBLIC UTILITIES

Electric Power

213. Prior to 1954 electric power was supplied through private, Dutch owned companies to the principal towns of Indonesia and by small government-operated facilities in ports of East Java, North Celebes and South Sumatra. These facilities were extremely limited in capacity and essentially designed for lighting supply purposes. Between 1939 and 1954 little or no investment was made to either expand or improve them. By 1954 widespread system rehabilitation and improvement was badly needed to serve the existing and rising electric power demand.

214. During the period 1954-1957 the private companies were nationalized and in 1961 the Perusahaan Listrik Negara (PLN), a state enterprise was formed to manage and operate all government-owned electric power facilities throughout the country. Until mid-1970, PLN was responsible to the Government through the Directorate of Electricity and Power of the Ministry of Public works and Power, but in mid-1970 the functions of the Directorate were transferred to PLN and currently PLN reports directly to the Minister of Public Works.

215. Between 1957 to 1968 only modest additions were made to generating capacity and maintenance was neglected with the result that at present there are serious deficiencies throughout the system. Improvements in the management and organization and of PLN as well as expansion and improvement of the physical facilities are urgently required, and first steps in those direction have recently been taken. Generating capacity must be increased, distribution systems rehabilitated and improved and high voltage transmission facilities reinforced and extended if the existing and prospective needs for electric power are to be satisfactorily supplied.

216. The responsible authorities of Government recognize the inadequacies of the present organization programs are now in hand to effect the improvements which must receive priority in the next few years.

217. Foreign and local funds are being made available to PLN and work on a number of delayed as well as new projects has been undertaken. Spare parts in operative diesel engines are being received and installed and limited amounts of distribution system equipment are being received and installed. In general, aid fund allocations have been made to cover urgent work to be completed up to about 1975. The projects, allocations and sources of external assistance, are set out in Annex I. In all cases where system improvements are being made, technical assistance is being provided to guide and train the staff of PLN and to ensure that equipment specifications meet the requirements of a modern system.

Management Improvement

218. PLN is controlled from a head office in Djakarta and the operating area is divided into 16 regions, each with its own manager and staff responsible for day-to-day operations. Partly due to the difficulties of communication between the head office and the regions and also to a lack of practical experience in the operation of management control systems, numerous problems have arisen which militate against efficient operational control. A firm of consultants has now been appointed charged with the responsibility of preparing proposals for the reorganization of PLN and the establishment of up-to-date management methods.

219. The proposed reorganization of PLN is in accordance with the desire of Government of Indonesia for the improvement of its overall operation to provide standards of service consistent with an efficient public utility enterprise.

220. During negotiations for the IDA credit, to provide for improvements to the Djakarta distribution system, it was agreed that PLN would be reorganized as an autonomous Government-owned corporation to be responsible for the generation, transmission and distribution of all public electricity services of the country.

221. To achieve this purpose the management consultants are preparing the necessary legislation for a corporate enterprise, with full responsibility and authority for the management of its physical and financial operations, the preparation of an inventory and revaluation of PLN's assets, the setting up of modern systems of financial control and the establishment of a new rate structure designed to enable the utility to become a financially competent and viable organization.

Tariff Structure

222. One of the factors contributing to the difficult situation of PLN has been the severe inflation ever since the mid-1950's. During this period no revaluation of assets was made and therefore there is no adequate base on which to develop a satisfactory rate structure.

223. However, in 1968, the Government instructed PLN to adjust its rates to bring about a balance between expenditures and operating revenues and a new rate structure was introduced in May 1968. Unfortunately, due to the growing inability of the PLN facilities to meet the growing demand, the new rate structures became, in effect, an endeavour to obtain increased revenues from classes of consumers who are not, in the long run, the most attractive clients of the supply system. Rates for the higher class domestic consumers, commercial and industrial consumers increase rapidly with increase of consumption and, with no preventive legislation, it has become common practice for industrial consumers, embassies, public building owners and even private householders to install captive generating plants to ensure continuity of supply and avoid the PLN tariff. In Djakarta, for example, it is estimated that about 50 percent of the power demand is supplied from private plants.

System Development

224. As of December 1969 the total generating capacity installed in Indonesia amounted to about 550 MW (Annex II). This capacity consists of about 200 MW of diesel units, 113 MW of steam units, 180 MW of hydroelectric units and 42 MW of gas turbines. In addition there is an estimated 200 MW of private generating capacity in service. Apart from the modern 125 MW hydroelectric power station at Djatiluhur and the 50 MW thermal station at Tandjung Priuk, serving Djakarta and Bandung, a station at Surabaya with two 25 MW steam thermal units and 14 MW gas turbines at Semarang, Palembang and Medan, the remainder of the capacity consists of diesel and small hydroelectric plants all in serious need of maintenance and repair. Funds are now being made available and spare parts for repair and maintenance of these units are being obtained.

225. A measure of the inadequacy of present power supply is that the total national and captive generating capacity amounts to about 7 watts per capita as compared, for example, with 30 watts for India. The annual consumption in Java of about 15 kwh per capita is one of the lowest in the world.

226. Owing to the lack of accurate statistics during the disturbed economic period and the inability to meet demand during recent years such historical data as exist are of little value in estimating demand trends. A Japanese survey team, which reported on the present overall situation, has examined available indicators for computing load growth and has concluded that, for planning purposes, a minimum overall expansion of 15 percent per annum should be anticipated. On this basis the total capacity should increase to about 1,500 MW by 1974. This could be greatly increased by the demand of particularly large and power intensive industrial developments such as, for example, aluminum smelting which would justify the construction of the first 500 MW stage of the proposed Asahan Hydroelectric project.

227. Except in certain areas of Java, the power systems of the country depend on simple distribution networks supplied from local generating stations. West Java from a 30 KV network, and East Java from a 30 and 70 KV network. In addition, a numerous small towns and villages, not yet within economic connection distance of the main networks, are supplied from local isolated (mainly diesel) power stations. Detailed planning for system improvement is now in progress for the whole of Java, the cities and surrounding areas of Medan, Palembang and Padang in Sumatra and the cities of Pontianak in Kalimantan, Makassar in South Sulawesi and Menado in North Sulawesi. This work, (in the more important areas) is being undertaken with the assistance of consultants. Systems planning for smaller towns and villages, which is of lower priority, is being undertaken by the staff of PLN.

228. In the past two years planning has largely been concentrated on the urgent need for system rehabilitation. A stage has not been reached where actual construction of the improvements is beginning. The work generally should be complete about 1974 by which time additions will be needed to generating capacity and further extensions to transmission and distribution facilities will be required.

229. Sources of aid assistance for the present program have largely been identified and are set out in the attached Annex 1 (Vol. 3 of this report), which also lists those projects for which allocation of funds will be required in 1971/72, if following system rehabilitation, the forecasts of electricity demand are to be satisfied.

230. As part of the technical assistance being provided in conjunction with the rehabilitation programs, long term load forecasts and feasibility studies are being prepared to identify additional facilities required to continue the present programs. These studies are now being prepared, and in Java, new thermal power station sites at Tjiribon, West Java and Surabaya, East Java have been identified, also studies are proceeding toward the determination of the extra high voltage interconnection of the power systems of Java.

231. In the remainder of the country interconnection of systems will not be required and present studies are largely concentrated on the preparation of long-term forecasts to ensure that the present rehabilitation programs can be economically extended to meet load growth.

Telecommunications

232. Public telephone, telegraph and telex services in Indonesia are provided by the Telecommunications Corporation of Indonesia (PERUMTEL), a government corporation responsible to the Minister of Communications.

233. Marine, railway, aeronautical, army and naval communications services are independently operated by their respective agencies.

234. The total number of exchanges to serve the whole country is 524 comprising 23 automatic, 37 central battery and 464 local battery-type exchanges serving about 135 thousand subscribers. Only 5 percent of the exchanges presently in operation were installed in the last 10 years; many are over 20 years old and about 90 percent of these are local battery exchanges. As a result, the general service is poor and as funds are becoming available, efforts are being made to substitute modern equipment for existing old facilities.

235. In the whole of Indonesia satisfactory trunk line services exist only between Djakarta and Bandung, operated over an STD microwave circuit, and between Djakarta and Tandjungkarang, operated over a 12-channel VHF radio system. Other trunk services are operated over open wire or HF radio links. Long delays due to traffic congestion are common and speech quality and general service are poor.

236. Telegraph services are provided by 720 offices throughout Indonesia and 17 exchanges with 406 subscribers are provided with teleprinter services. With the improved economic situation of the country PERUMTEL has embarked on an intensive effort to rehabilitate and improve existing services and to extend facilities to provide an adequate communication system throughout Indonesia.

237. Planning assistance is rendered to under the Colombo plan, provided by the Australian Post and Telegraph Administration. Under the development plan it is planned that by 1979 trunk microwave, HF radio and tropo-scatter radio systems would be in operation to provide high grade communication facilities throughout the Indonesian archipelago with connections to Malaysia and Singapore and, probably, with extensions to the Philippines and Australia (see map). In addition, improvements and extensions of local telephone, telegraph and telex services and underground cable networks are being installed to give subscribers satisfactory access to the new trunk and reduce the backlog of subscribers awaiting connections.

238. Under a Japanese loan, equipment is being supplied to extend the existing Djakarta-Bandung STD microwave system through Central and East Java to Denpasar in Bali and construction of this section has now begun. An IDA credit has been provided and tenders are now awaiting for the equipment to construct trunk microwave circuits from Djakarta to Medan in Sumatra with spares to Telukbetung, Tandjungkarang, Djambi and Palembang. Specifications are now being prepared for the supply of cables and teleprinter equipment associated with the trunk facilities.

239. The Australian Government has provided grant aid funds for the supply of switching equipment for the trunk circuits.

240. A survey is now in progress using Japanese technical assistance to determine the best tropo-scatter path between Surabaja, in East Java, and Bandjarmasin, on Kalimantan. Equipment specifications will be prepared by the staff of PERUMTEL assisted by the Australian technical team and provision of funds has been made in the IDA for the purchase of equipment.

241. In addition work is proceeding with the installation of local cable networks particularly in Djakarta where an extensive underground duct system is being installed using materials and supervisory services provided by Australia. The installation of additional subscriber equipment is being supplied under existing credits from Germany, the Netherlands and France.

242. The management of PERUMTEL recognizes there are many deficiencies in the existing operational system and considerable reorganization is necessary to ensure satisfactory control of the organization with the additional load to be imposed by the expansion of facilities. Management consultants have therefore been appointed in accordance with the requirements of the IDA credit to examine the whole organization of PERUMTEL and to make recommendations for needed improvements in methods and control systems. To assist with the implementation of the consultants' recommendations, three experts in the fields of financial control, operations and traffic procedures, general organization, administration and personnel, are being appointed under Colombo plan assistance to work with the staff of PERUMTEL.

243. To continue the improvement of services, funds for additional equipment amounting to an estimated cost of about US\$10 million in foreign

currency and Rp 1.2 billion in local currency must be committed in the 1971/72 fiscal year. Details of the equipment required are set out in the table below.

	<u>Foreign Exchange</u> (\$ mil)	<u>Local Cost</u> (Rp mln)
Djakarta Extension of Automatic Exchange in Kebajoran (3,000 L.V.) Semangi (2,000 L.V.) New Exchanges in Tebet (4,000 L.V.) Tjempaka Putch (4,000 L.V.) Ketapang (6,000 L.V.)	5.8	464.0
Semarang Tjandi, New Automatic Exchange (2,000 L.V.)	0.6	88.0
Medan, New Automatic Exchange (4,000 L.V.)	1.1	176.0
Magelang, Extension of Automatic Exchange	0.3	40.0
Bandung (East) Underground Cable Network Extensions	0.3	50.0
Radio Communication Between Towns in Kalimantan and Maluku Islands	1.05	150.0
Purchase of Teleprinter Equipment	0.4	150.0
Extensions to VHF and Carrier Currents in Java and Sumatra	0.52	62.0
<u>Total 1971/72</u>	<u>10.07</u>	<u>1,180.0</u>

C. Water Supply

Background

244. For the supply of drinking water, Indonesia is fortunate in having both ample rainfall in most of the heavily populated areas, and a reasonably good distribution of that rainfall over the year. In most large urban areas groundwater is, therefore, plentiful and at levels which can be reached by shallow wells in the gardens and backyards of the houses. And in the rural areas the needs can usually be met without too much expenses by either ground-work surface water or a combination of both.

245. This is the main reason why traditionally the Dutch always gave central water supply systems a rather low priority, and why this has continued to be the case since independence. The first major water treatment and distribution systems of Indonesia only date back to the period around the first World War, and the total of the systems that were built between then and the beginning of the second World War still reached only a fraction of the total population. Thereafter, little was added to the systems for the obvious reasons, first the Japanese occupation and then the liberation struggle against the Dutch, followed after 1950 by another long period of stagnation due to lack of competent institutions and lack of funds. The service of many water supply systems actually deteriorated during that period.

Present Situation

246. This lack of an organized supply of water is now, however, becoming increasingly felt in the urban areas. The total urban population is about 20 million, with the population of Djakarta alone approaching 5 million, and that of Surabaya approaching 2.4 million. Bandung has over 1 million people, and Medan and Makassar are expected to pass the million mark by about 1975. Only about one-third of this population, and in many areas an even much smaller portion, receive water from central systems. As a result, more and more people in the cities are using unprotected sources of water, including river water and very shallow wells, and are thereby exposed to the usual waterborne diseases, such as cholera, typhoid, paratyphoid, infectious hepatitis and dysentery. In parts of the country some of these waterborne diseases are endemic and break out from time to time to reach epidemic proportions; cholera in particular has broken out again in central Java this year (1970).

247. Because of the general availability of drinking water from shallow groundwater, and of the overall shortage of funds for investments in all the infrastructure sectors, central water supply was again assigned a rather low priority in the current Five-Year Plan and in the requests for foreign aid. For the period 1969-1974 a total amount of only Rp 7.0 billion (US\$20 million at the exchange rate used for the Plan) have been set aside for Central Government contributions to water supply projects, supplemented quite recently by the first project aid in this sector; namely from Australia (about US\$300,000 so far for Bogor and Denpasar), Japan (US\$1.3 million for Djakarta). Two other donors are now discussing smaller contributions in this sector. In all these cases this project aid will start with the retention of consultants responsible for the next three to four years, and an emergency program for the supply of equipment and materials needed just to improve or restore the present service. There are some other financial resources available, such as contributions by the provincial and municipal administrations, but their total is quite modest.

248. The commitments for expenditures during the period of the Five-Year Plan on projects already going forward already exceed substantially the Plan's total allocation to this sector. This limit on the local funds available has in fact become for the present the most serious constraint.

Organization, Management and Internal Financing of the Water Supply Sector

249. The relative smallness of the allocation of funds to the water supply sector, is however, not the only constraint to expanding and improving it. Equally serious obstacles are the organization and state of finance of the municipal systems, which have the basic responsibility for both the investments and their operation and maintenance. The municipalities have traditionally had this responsibility for their water supply systems, and this is still the case today. There are very great differences, however, from municipality to municipality, as to how this service is administered and financed. There are on the one extreme a number of cases of good organization, competent staff, and remarkably good operation and maintenance, taking into account the limited means at their disposal. But there are, on the other hand, a great many cases of poor organization, inadequate staff and poor operation and maintenance, sometimes adding up to gross mismanagement.

250. The quality of the maintenance and operation is, of course, very much influenced by the amount of funds available for the purposes. In a number of municipalities the financing of operation and maintenance of the water supply system is an integral part of all the municipal services. In other cases, the water supply system has its own management and can dispose of the full income from the water charges to meet the costs of operation and new investments. Under either system there are cases of the funds being reasonably adequate at least for operation and maintenance, many more where they are totally inadequate. In general the water charges are low. Only very rarely is there a surplus from operations available for new investments. In part this situation is caused by reluctance on the part of the municipal administrations to increase water rates because they have a direct impact on the cost of living. But there is also the problem that it would be very difficult for many administrations to raise the water rates before improving the service. Finally, in some areas, in addition to low rates and poor organization and efficiency of the system of collection, the municipalities cannot collect from certain groups of people and certain installations, especially the military.

251. Because of the municipalities' chronic shortage of staff and funds the Central Government has, over the years, more and more assumed the role of assisting them in both these two regards, and lately this has become more important. Within the Central Government the responsibility for this assistance lies with the Directorate General of Planning and Construction of the Ministry of Public Works. The larger municipalities--traditionally those of more than 5,000 inhabitants--can get help from this directorate general in both planning, organization and management, and funds. In the past, in theory, these funds were made available in the form of loans, but in fact there has been very little repayment. For 1969/1974 the funds available to this directorate general for the water supply sector are those mentioned at the beginning of this chapter.

252. To generalize, it is fair to say that the funds at present available for operation, maintenance and new investments are just barely adequate to maintain or slightly improve the present volume and quality of the water

supply to the urban areas, but that they do not allow for any substantial improvements. And there are still a number of systems where the volume and quality of the service actually continue to deteriorate.

Future Developments

253. A joint IBRD/WHO mission has recently visited Indonesia to review the water supply sector in depth, and its report should become available towards the end of this year.

254. In addition to the main problems described above, the mission has reviewed at some length two others which will affect the direction and cost of future investments in this sector.

255. The first concerns the sources of water to be tapped for future expansion of the systems. Until now in the planning of these larger municipal water supply systems the tradition has been to look for water from springs and mountain streams, which has in a number of cases led to long and expensive pipelines. No systematic effort was made to explore the groundwater resources in the municipal areas, and the possibility and cost of pumping and treating water from that source. This is in many of the municipalities such an obvious alternative and possibly much cheaper source that it might be well worthwhile exploring its availability as a separate study.

256. The other problem presently affecting very much the costs (both total and foreign exchange) of expanding the water supply system is the absence of any standardization. This has now become an urgent need, because such standardization would reduce the costs of design and procurement, improve the supply of spares and replacements, and most importantly, encourage the local manufacture of equipment and material, especially pipes. Now nearly all of this equipment and material, especially pipes. Now nearly all of this equipment and material has to be imported, which is entirely unjustified considering the size of the market.

257. The IBRD/WHO mission is likely to recommend the following:

- (a) Technical assistance by IBRD and WHO to the Directorate General of Planning and Construction in its role of guiding and directing the planning of major municipal system expansions to the point where they can be financed by project aid;
- (b) Technical assistance by IBRD and WHO to the Directorate General of Planning and Construction in its role of advising the municipalities on re-organization and improvements in management, operation, maintenance, billing, collecting and accounting;
- (c) Studies on standardization of design and equipment;
- (d) Studies of new sources of water, especially groundwater from deep wells;

- (e) Training, probably through the creation of a national water supply institute; and possibly
- (f) Feasibility studies for one or two major municipal systems, in addition to those already committed, Djakarta, Bogor, and Denpasar, and of at least equal priority with the two others, Solo and Palembang, already under discussion. There was a consensus between the Government and the mission that the two additional municipal systems probably deserving highest priority on all counts are Surabaya and Bandung. One of the reasons for relatively high priority of both these two systems is that they are already quite well organized, operated and maintained and have a better financial base than most others. It was generally agreed that the preparation of masterplans, three-year investment programs and emergency programs for these two systems would also deserve high priority for multilateral or bilateral technical assistance.

Tourism

258. During the last three years there has been an encouraging start towards catching up in this sector. In 1968 some 50,000 foreign tourists visited Indonesia; in 1969 this figure increased to about 86,000, and the forecast for 1970 is for about 105,000. Very roughly, this flow of foreign tourists has brought in a gross amount of US\$20-30 million in foreign exchange. Estimates of net inflows are now being made. They should come to about \$14-20 million, after meeting all foreign exchange costs for operation and maintenance of the facilities, debt service and profit transfers.

259. Indonesia has a considerable potential for tourism, offering a larger variety of tourist attractions than most of its neighbours. Recent trends in tourist spending are, however, still very far below the potential. In the past the main deterrents to the flow of tourists were political instability and unrest, but more recently it has mostly been lack of adequate facilities. This bottleneck continues to be serious, especially as regards hotels and transportation. There has been an increase in the number of hotel rooms in Djakarta that meet the requirements of international tourists from 500 to about 800. To this can be added the about 100 existing rooms in Sumatra Beach, about 150 in Bandung, 100 in Jogjakarta and 300 in Bali. In addition there are, in the major cities of Indonesia, hotels of lower grade (including about 300 rooms in Djakarta and 115 in Bali, but most of them are below the standards accepted by the average foreign tourist. This number of rooms is insufficient even for business and official visitors alone, and most hotels, in Djakarta especially, are constantly overbooked.

260. During the next few years the constraints to the development of tourism will continue to be primarily shortage of hotel space and inadequate transportation facilities.

261. The four largest hotels of international standard now in operation are Government-owned. The above-mentioned shortage of rooms, especially in Djakarta, has, however, recently led to a remarkable number of private initiatives both foreign and domestic, and it is the policy of the Government to continue to rely on the private sector for all further investments in tourism. Additions of roughly 300 rooms, all privately owned, are thus scheduled to become available in Djakarta in 1971, some 1,000 rooms in 1972 and some 1,500 rooms in 1973. Most of the new hotel space in Djakarta will be taken up by business and official visitors, rather than pure tourists, but the impact on the economy is of course the same. More tentative plans are also being completed for some 100 additional rooms in Bali in 1971 and several hundred additional ones, including about 200 rooms in Medan, in 1973.

262. Part of the financing of this additional hotel capacity has so far come from foreign private equity and loans and another substantial part from the medium-term credit program. The Government offers a variety of incentives, such as exemption from import duties on material and equipment and the usual tax-holidays extended to all foreign investors. The present rate of new hotel construction still falls short, however, of expected demand. The three most serious constraints seem to be (i) a continued shortage of sources of finance, both local and foreign; (ii) a rather high cost of investment per hotel room, because new hotels have to invest in their own infrastructure facilities, such as supply of water and electricity, and treatment of sewage; and (iii) a rather high total cost of labor for the operation and maintenance of the facilities.

263. In transportation there have been the considerable improvements and enlargements of airport facilities in Djakarta and in Bali, both of which can now accommodate larger jets; and there have been some improvements in scheduled domestic and international air services. Other chapters of this report describe in more detail the improvements, both actual and planned, of roads, railroads and civil aviation, as they will affect tourism.

264. It is the general concensus in the tourist sector, and especially of tourism promoters, that over the long run the main development of tourism in Indonesia will not be in Djakarta, but in the much more attractive places such as Bali, East and Central Java and North Sumatra. Most promoters envisage Indonesia as a potential "additional link" in package tours for tourists coming through Southeast Asia from Japan, the U.S. and Europe, rather than as a destination by itself. They believe that these additional links would usually take the form of a "swing" through Indonesia, starting from Singapore and going through Bali, East Java, North Sumatra and back to Malaysia, or vice versa.

265. There is the further concensus that, within this potential, this future development should start in Bali, because it already has a well established international reputation for its attractions and is located at the most direct air route from Australia to Southeast Asia. Singapore, for instance, looks at Bali not as a competitor to its own potential but as a very welcome addition.

266. Out of this thinking has come the idea of a separate study of the tourism potential of Bali and of the first steps necessary to exploit that potential. At the request of the Government the UNDP has financed this study at a cost of about US\$640,000. It is being administered by the World Bank as executing agency, carried out by French consultants, who started their work in April 1970. The main objectives of this study are: (i) a master plan for the long-term development of tourism in Bali; (ii) an outline for a ten-year implementation program in accordance with the master plan; (iii) recommendations as to the institutional, organizationa, administrative and financial arrangements necessary to ensure the efficient implementation of the master plan and associated programs; and (iv) detailed technical and feasibility studies for a first stage of the infrastructure works included in the implementation program.

267. The study is now well underway, its interim recommendations have been well received by the Government, and the final report is due in about March 1971. It is hoped that it will serve as a basis for external lending both for the required infrastructure and related facilities as well as the hotels themselves. Similar regional tourism studies are likely to get underway in 1971, drawing on the experience with the Bali study.

268. It is difficult to estimate at this early stage what the full potential of tourism in Indonesia for the future may be. A number of possible focal points on Java, Sumatra and Sulawesi, and on several of the smaller islands in the Nusatenggara and Maluku groups are identified. Some of these may be suitable for development as stops on long-distance tourism trips, others rather as resorts for trips of medium to longer duration for tourists originating within the Southeast Asian region. Some of the smaller islands could develop into stops on international liner-cruises through the South Pacific.

269. The results of the study of Bali will provide a better basis for estimating investment requirements for the tourism sector. At present, annual investments in tourist accommodations may not be more than some \$3-5 million, and experience in other countries, especially in Thailand, indicates that for rapid growth of foreign exchange earnings even with a lesser natural endowment compared to Indonesia, annual investment expenditures on such facilities of some \$15-20 million may be needed.

270. The promotion of tourism requires measures, financial resources and training over a wide range of areas. Not only do improvements of infrastructure like transport, communications and power constitute prerequisites for any major development of tourism, there is also need for high standards of performance in travel arrangements, hotel administration, quality transport equipment which offers reliable and well-timed services, reduction of risk by strict enforcement of vehicle safety rules and traffic regulations and the provision of a large number of minor services like newspapers and magazines, car rentals, tourist guide services, maps and guide books, and others. Many of the administrative bottlenecks and unnecessary licensing procedures or regulations which hamper the development of more adequate services need to be removed.

271. Tourism is not necessarily bound to specific cities or resorts and their immediate surroundings; access to more distant attractions and the provision of widely scattered and small but adequate tourist facilities may easily pay off when it involves somewhat longer visits by tourists. Java is rich in attractive but scattered tourist attractions which, however, need to be made more easily within reach of the visitor, both by providing such facilities and by special projects to improve access to the sites.

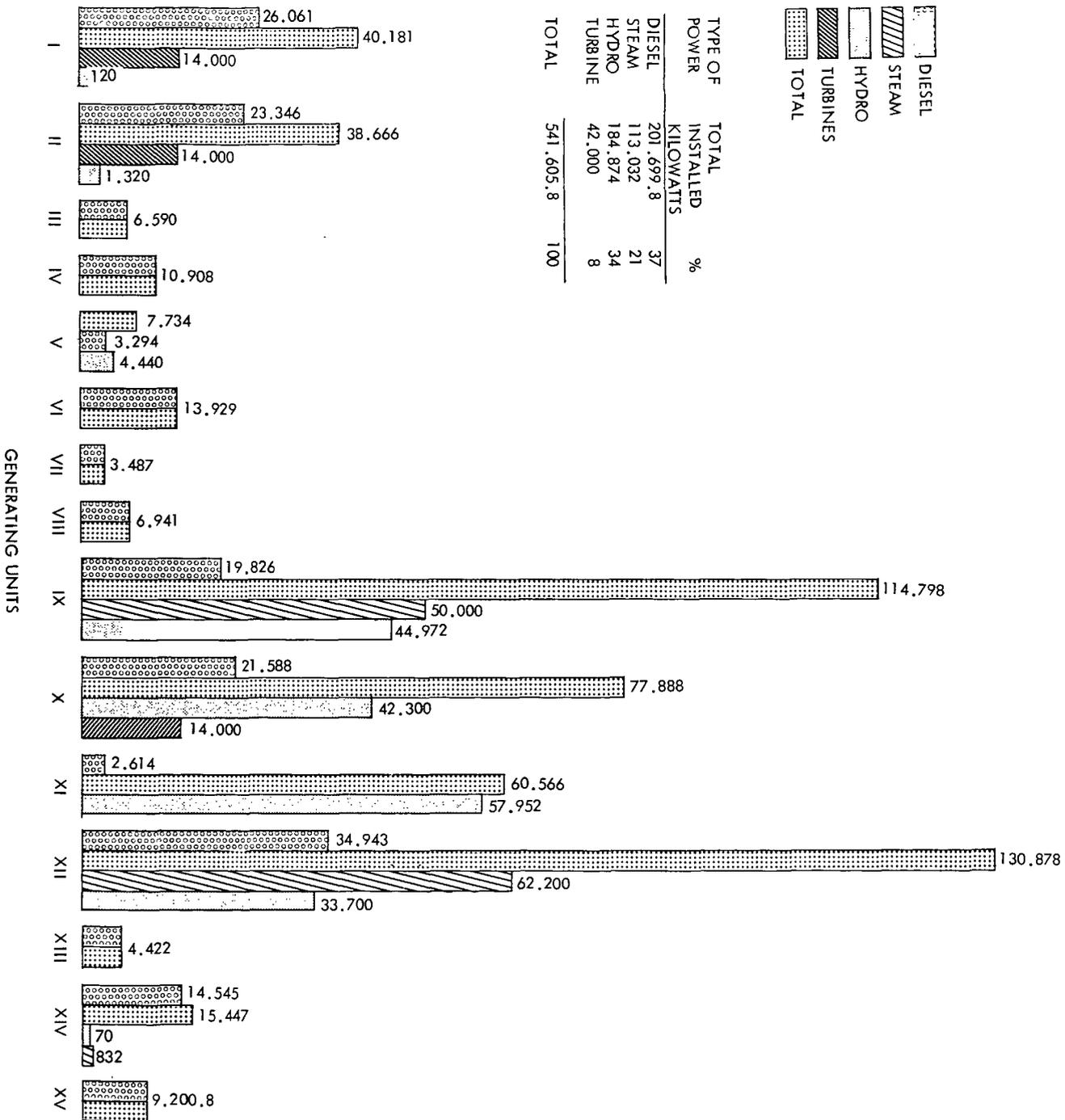
Perusahaan Listrik Negara (PLN)
National Electricity Company

For administrative purposes PLN is split into 15 administrative districts, with head office in Djakarta:

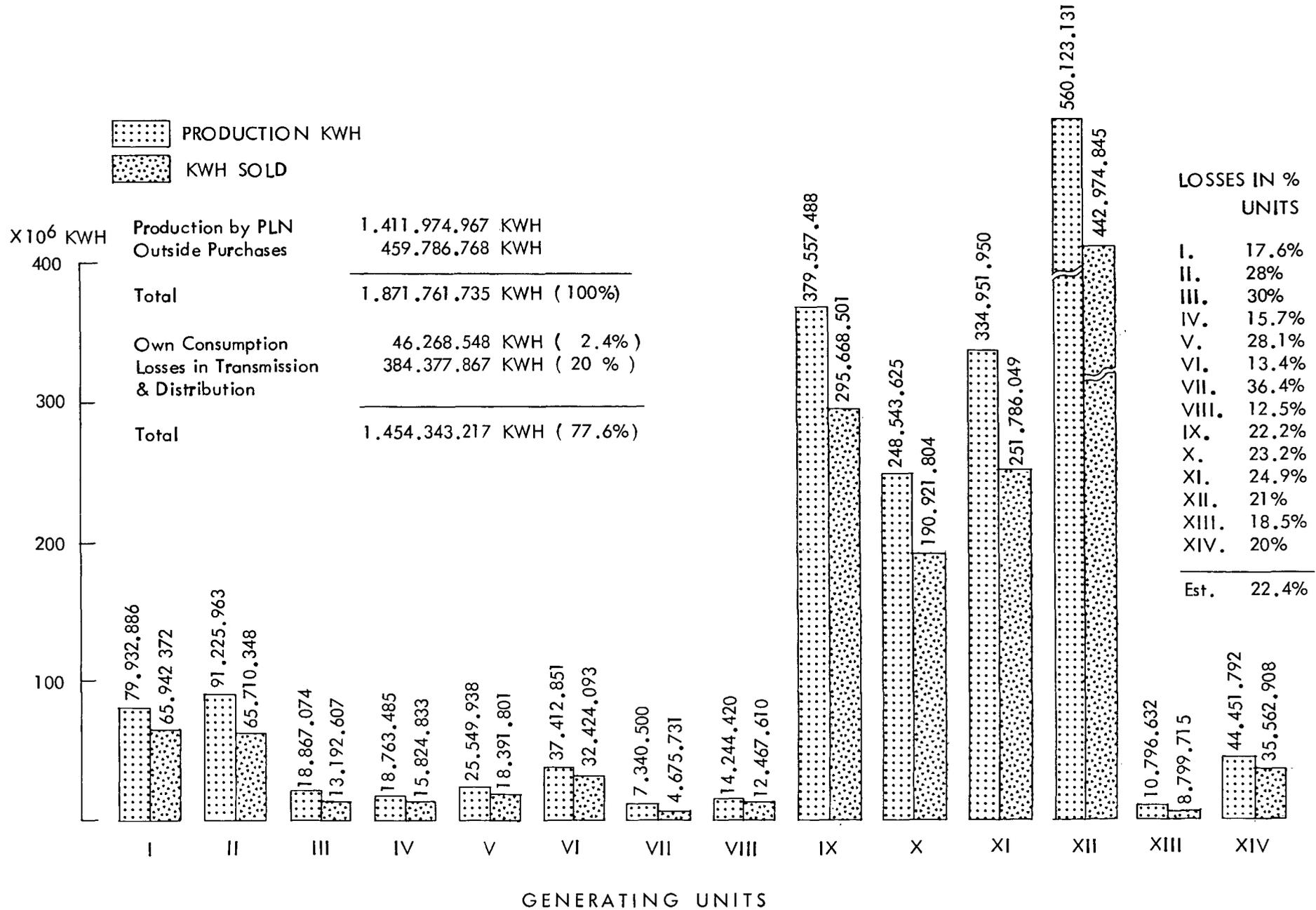
<u>District</u>	<u>District Head Office</u>	<u>Location</u>
1	Medan	North Sumatra
2	Palembang	South Sumatra
3	Pontianak	West Kalimantan
4	Bandjarmasir	East Kalimantan
5	Menado	North Sulawesi
6	Makassar	South Sulawesi
7	Ambon	Molucca Islands (Morotai, Seram, Buru (Halmahera Ambon (Jaliabu, Mangole
8	Denpasar	Nusa Tenggara (Bali, Lombok, Islands (Sumbawa, Flores (Alor, Sumba, W. Timor
9	Surabaja	East Java
10	Semarang	Central Java
11	Bandung	East, West Java
12	Djakarta	West Java
13	Banda Atjeh	North, North Sumatra
14	Padang	Central Sumatra
15	Sukanakura	West Irian

Note For description of existing tariff schedules and rates see Current Economic Position and Prospects of Indonesia, Chapter 3, POWER, Table 4. Report No. AS-143a, October 1, 1968.

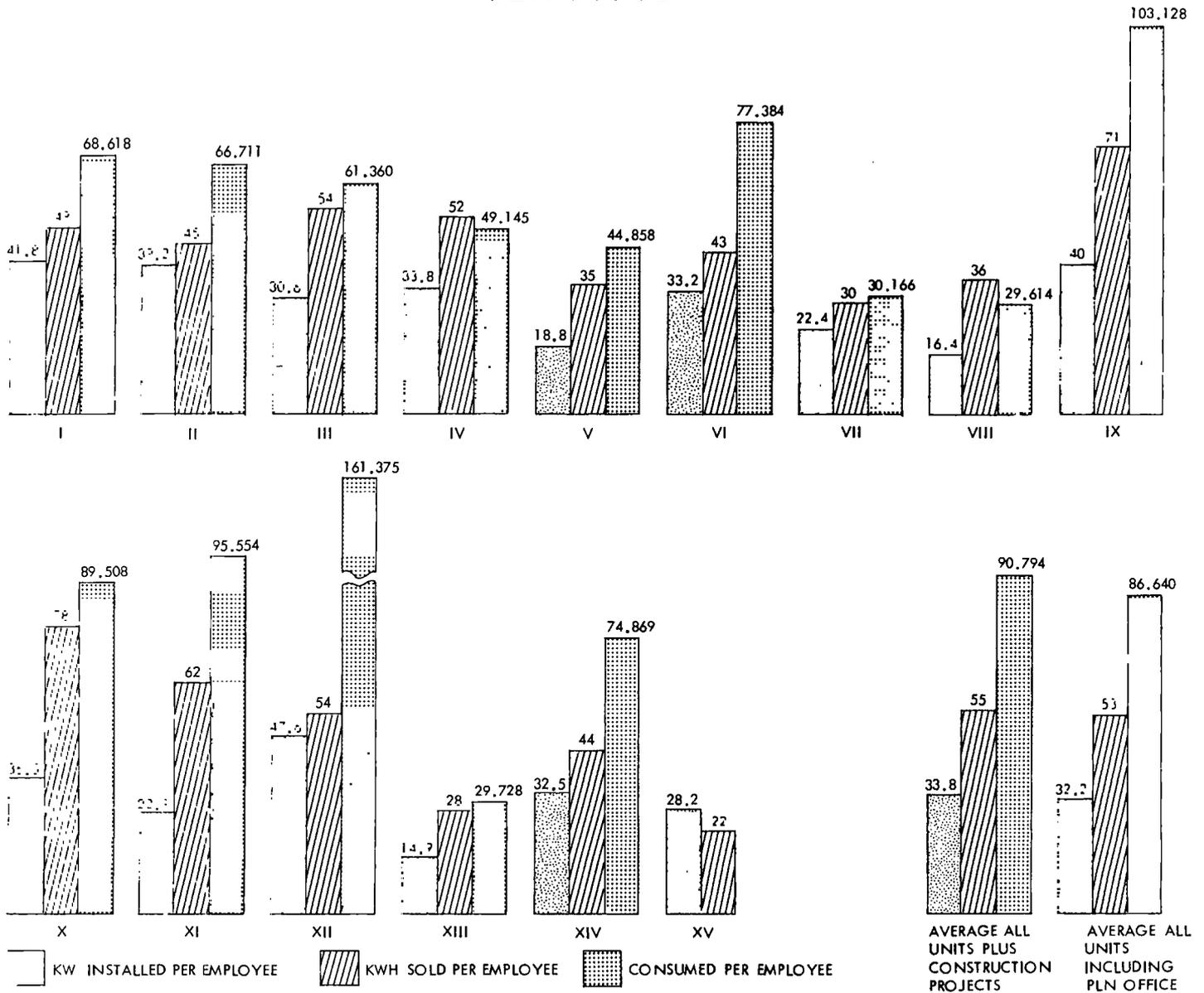
KW INSTALLED IN EACH PLAN GENERATING UNIT YEAR 1969



PRODUCTION AND SALES KWH PER UNIT YEAR 1969



KW INSTALLED, KWH SOLD AND NUMBER OF CONSUMERS PER EMPLOYEE ON EACH UNIT YEAR 1969



CHAPTER 5

THE SOCIAL SECTORS

272. In the period following the virtual collapse of the Indonesian economy in 1956-66, the attention and energies of the Government were concentrated largely on the formulation and implementation of policies for economic recovery and on programs for rehabilitating the economic infrastructure. Planning for the social sectors was inevitably neglected. It is only recently, with stability regained, infrastructure works well underway and economic development becoming discernable that fuller attention could be given to the needs in health, education and family planning. This section of the report describes the planning, still in its early stages, for what will undoubtedly become a major part of the effort to develop Indonesia, if not of the investment program, in the near future.

273. Indonesia's Five-Year Development Plan allocates about 16 percent of estimated development resources in the public sector to the social field, comprising health and family planning, education and culture, religion, and social welfare. Within this allocation education and culture have the major share and were expected to absorb close to 60 percent of the allocated resources. In the nature of the Plan, the figures should be taken as a guide to relative priorities rather than a commitment to provide specific allocations.

274. In the development budgets of 1969/70 and 1970/71, the share of health, education and welfare in rupiah development resources was respectively 15.3 and 14.3 percent of the totals. In the virtual absence of project aid for social development, a reflection partly of decisions on priorities but also on the state of project preparation and the character of most projects in these fields, actual spending on these social programs amounted in 1969/70 to only 9.2 percent of total public sector development expenditure including project aid and could take about 10 percent in 1970/71.

275. To a large extent this situation reflects the difficulties of a stage of transition. The Five-Year Plan recognizes the existing deficiencies in the social sectors, and specifically in education; however, the formulation of new programs which are consistent with long-term needs and aims is complex, difficult and time-consuming. The Government is now attempting to assess the needs and formulate programs to meet them, increasingly assisted by technical and financial help from outside the country.

A. Education and Manpower

276. Since independence Indonesia has placed a high value on mass education and, within the limits of its resources, has attempted to provide education and the benefits of literacy for all of its large population. The efforts have been partially successful.

277. Approximately 80 percent of the children receive two years of primary education but less than half of them finish grade six. While reliable data are lacking, the effective general literacy rate is estimated at about 40 percent.

278. There is not yet a firm base for determining educational and training targets. Some studies of the education system have been initiated recently; a manpower survey is needed. There is need also for basic decisions on the nature and purpose of education in Indonesia. Major questions of structure, organization and policies must be resolved before effective long-range educational planning, linked to the development strategy of the economy as a whole, can be undertaken.

The Education System

279. Responsibility for education is centered essentially within the Ministry of Education and Culture. The Ministry has recently been reorganized, and a number of Directorates General have been eliminated in order to reduce overlapping of responsibilities and improve coordination. An Office of Educational Development has also been established to improve overall planning.

280. With a view to fundamental reform of the educational system, the Office of Educational Development is at present conducting a national assessment study, supported by the Ford Foundation, and a systems analysis study, initiated with the assistance of UNESCO/UNDP. The national assessment study includes collection of basic educational statistics, now often unavailable, and a review of the education system's organization, curricula, finances and relevance to manpower requirements. While this study will not be completed before 1973, interim reports will be available periodically. The systems analysis study will provide, by some time next year, broad guidelines on options for policy decisions on the reorientation of the educational system and its main sectors.

281. In addition to the Education Ministry, the Ministries of Religion and Agriculture also direct education programs. Most of the Ministries, including the Ministry of Manpower, run training programs for the upgrading of specific skills. Private schools play a very significant role in education. While reliable data are lacking, it is estimated that approximately 20 percent of the primary school children, 35 percent of the junior secondary students, and at least 40 percent of the senior secondary students are enrolled in private schools.

282. Secondary education is offered after six years of primary education. Junior and senior secondary school courses are both of three years' duration and are divided into four main types: general, vocational, technical and agricultural. The school curricula are not necessarily related to current manpower needs of the country. Teacher salaries are low - often below the subsistence level - with the result that teachers must have a second job. Even though schools meet six days a week, double shifting is

required because of the great number of children and few available teachers. Most schools are without sufficient equipment or books. For these and other reasons, the quality of education is very poor. Dropout rates are high: a 1968 UNESCO report estimates 67 percent in primary schools, 25 percent in junior secondary schools and 40 percent in senior secondary schools.

283. About 15 percent of the junior secondary and about one-third of the senior secondary students are in vocational, technical, or agricultural training. Because the vocational and technical secondary schools lack adequate facilities and equipment, teaching is devoted almost exclusively to theory. For example, instead of learning how a machine works by using actual machinery, students have to learn by drawing diagrams on the blackboard.

284. Higher education includes 40 public universities, institutes, and teacher-training colleges. In addition, 200 other institutes and academies are controlled by other ministries and private organizations. As part of the adult education program, the Ministry of Manpower operates eight centers for the upgrading of craftsmen's skills. Two of the eight, these in Djakarta and Bandung, are assisted by the I.L.O.

Education Finance

285. Total Central Government recurrent and capital expenditure on education in the 1969/70 fiscal year was Rp 43.5 billion, or 13 percent of total Central Government expenditures. This ratio is within the range of average commitment to education by countries of comparable income level. About 85 percent of the expenditure was channeled through the Ministries of Education, Home Affairs, and Religion and the remainder through other Ministries. Parent-teacher associations supplement the school budget in their area through student subscriptions.

286. The Government's recurrent expenditure on education, excluding the administrative expenditures of the several Ministries, was about Rp 34 billion in 1969/70 or 15.5 percent of the total recurrent expenditure. This includes Rp 20 billion in transfers to regional authorities through the Ministry of Home Affairs which is responsible for the salaries of the 320,000 primary school teachers. Expenditure by the Ministry of Education was about Rp 7 billion. Since 85 percent of the total budget is spent on teacher salaries, there is a shortage of funds for teaching materials and for maintenance of equipment and buildings. Based on projections of growth of recurrent government expenditure, it would be reasonable to assume that recurrent expenditure on education will increase to about Rp 59 billion (in 1969/70 prices) by 1973/74, or about 20 percent of the Central Government's total recurrent expenditure. This level would allow a larger share of education expenditure to be spent on qualitative improvements, especially on didactic materials.

287. The total capital budget for education and culture under the current Five-Year Plan is Rp 95 billion, or 15.3 percent of the total capital budget. The emphasis to be given to the development of technical and vocational education and training is reflected in the Rp 47.5 billion to be allocated to technical and vocational education, equivalent to 50 percent of the total amount allocated for educational development.

288. In the recent past, the Ministry of Education has had difficulties in implementing its development projects, partly due to the wide dispersal of numerous small projects and to the inadequacies of existing management and control mechanisms. In 1969/70, budget provisions of Rp 5.6 billion were made for 694 approved projects of the Ministry. Disbursements in the year amounted to 80 percent of the total appropriations. The new Office of Educational Development is expected to improve the implementation of development projects in the 1970/71 fiscal year.

Manpower Needs

289. Information on the occupational and educational distribution of the labor force and the labor market is very limited. The Development Planning Board (BAPPENAS), with Dutch and Ford Foundation technical assistance, is working to identify critical manpower requirements in selected areas and projects under the Five-Year Development Plan.

290. The recent years have been a period of rehabilitation of the economy. A government freeze on hiring since 1966 and a very small expansion of wage-earning and salaried jobs combined with more efficient utilization of labor by the larger industrial firms have had a dampening effect on general labor demand. There has been, however, a chronic shortage of well-trained middle level manpower, primarily with skills in the fields of mechanical, electrical and civil engineering. But in the absence of a manpower survey, these shortages cannot be quantified. In addition, a strong demand for middle level manpower is being increasingly generated as a result of the public sector development programs and the foreign and domestic private capital investments. The implementation of projects approved in 1967-69, financed from foreign sources, in the fields of manufacturing and processing, could alone create 7,500 new jobs for technicians and craftsmen. New job openings are being added to this number as investment activity gathers momentum and the execution of approved projects proceeds.

Education and Training Requirements

291. The data on the education and training needs in Indonesia are meager, but two areas of obvious priority which require improvement are technical and agricultural education. Improvements in the provision of secondary technical education, in order to meet the urgent manpower needs for craftsmen and lower supervisory personnel are therefore unlikely to conflict with the priorities which will emerge from the national assessment study.

292. Because of inadequate funds for purchase, maintenance and replacement of educational equipment and materials, the senior technical secondary schools operate, at present, with woefully inadequate laboratory and workshop equipment, thus placing too heavy emphasis on theoretical studies. As a result, the graduates are frequently unwilling to enter industrial workshops or are unable to adapt to employers' requirements. Because of the absence of practical training, and because the present technical school instructors, in many instances, also have not had this practical training, the schools have been unable to prepare students properly for industrial employment at skilled-craftsman and lower-supervisory levels. The senior technical secondary school system clearly requires assistance to upgrade the quality of instruction in practical subjects.

Assistance to the Education Sector

293. The Government is seeking foreign assistance in the educational field and wants to coordinate this assistance. At a conference of representatives of donor countries and aid-giving agencies held in October 1969 in Djakarta, the Government of Indonesia presented a program for educational assistance, technical and financial, drawn up with the help of a UNESCO/UNDP mission. The program is inevitably of a preliminary nature oriented to immediate needs, rather than the comprehensive and fully coordinated program which will later be feasible.

294. The program embraces 41 projects, distributed among the priority areas identified in the Five-Year Plan and involving an estimated foreign exchange component of about \$55 million for which new commitments are to be sought from donor countries and agencies during the Plan period. Within the program, priority is attached to a so-called "First Attention List" which currently includes 23 projects on which work could start when project preparation reaches the stage at which specific commitments can be sought and given; this more limited list is provisionally estimated to involve a foreign exchange component of about \$30 million. Although the program includes several long-range projects, about two-thirds of the external assistance required is for the short- and medium-term projects which are expected to produce tangible results within the Plan period. The list is only a first attempt to establish immediate educational priorities and is subject to continuous updating and revision.

295. The list contains a project for assistance to the recently created Office of Educational Development (BPP) to which high priority is attached in the program. The UNESCO/UNDP mission has helped frame a project to provide continuing assistance to the BPP during its first phase of institution building.

296. At the October 1969 conference it was decided to form "clubs" of interested countries and agencies for the following five program areas:

- (a) Technical education;
- (b) Science education;

- (c) Out-of-school education, including family planning;
- (d) Textbooks and teaching aids production;
- (e) Education development.

The Government intends these clubs to be forums for informal exchange of information and discussion of programs and issues. The informal advisory assistance that such forums of discussion could provide to the education authorities would guide the efforts directed to project identification and preparation. These activities would supplement and not substitute for existing procedures and established channels.

297. As mentioned, the Ford Foundation is assisting in a basic assessment of the education system and UNESCO/UNDP is engaged in the systems analysis study. Foreign aid to education, coordinated by the Office of Educational Development, has provided other expatriate specialists and fellowships for overseas training, particularly in agricultural education. An exception is a Canadian aid project for the construction and equipment of a textbook plant valued at \$150,000. The second aid project in the education field is an IDA credit of \$4.6 million for five technical training centers, training for their staff and technical assistance in operation, for the purpose of training 4,000 new supervisors and craftsmen annually. There is a case for much more investment in technical and agricultural training, even at the present stage of knowledge of the problems and needs.

B. Health

298. There was considerable progress in the development of health services in Indonesia in the years following independence. From 1954 to 1968 the ratio of doctors to population increased from 1:60,000 to 1:23,000, although rural areas were relatively badly served, with an average of 100-120 thousand people per physician compared to 5-6,000 in the cities. Polyclinics for maternal and child welfare increased by 3-400 a year over the period and from 1959 to 1965 the number of general clinics grew from about 4,000 to 5,670. Most lacked adequate medical equipment or supplies.

299. With the onset of inflation and the erosion of health program resources, services deteriorated and standards declined. Hospital conditions worsened. Disease eradication programs were also seriously affected. The number of malaria patients in Java, Bali and Lampung increased and malaria returned to some areas in which it had been eradicated. Immunity to smallpox was reduced to low levels as routine vaccinations declined. In 1967 health services were deficient in urban as well as rural areas. Even the low ratio of 8 hospital beds per 10,000 people was misleading -- many regional hospitals could utilize only a quarter of their capacity.

The Master Plan for Health

300. As the economic situation began to stabilize in 1967, a start was made on the rehabilitation of basic health services. In November 1967 the Minister for Health declared that a master plan for integrated health services should be prepared. The plan was formulated at a National Health Conference in April 1968 attended by senior staff of the Ministry and all the provincial health departments. With the close cooperative of UNICEF and WHO, the Master Plan of Operations for the Strengthening of National Health Services was drawn up and, in January 1969, signed by the Government and the two UN agencies.

301. Like the Indonesian Five-Year Development Plan which came into operation in April 1969, the Master Plan presented a strategy for health for the years until 1974, and was to be implemented in a progression of specific annual plans. It was designed to describe, in broad lines, the basic pattern which the Government wished to apply in the development of the country's public health services, toward the longer-term objective of making such services available to the whole population. The Plan nevertheless specified objectives, methods, administrative procedures and component parts of the program clearly and in detail. It embodied commitments of assistance by UNICEF and WHO for the initial phase of the program, and related commitments of the Government. And, in an annex, it prescribed the plan of action for 1969.

302. The general objectives, apart from the rehabilitation of essential facilities and some development along existing lines, are to promote the integration of curative and preventive health services at all levels and staff them adequately; define functions and responsibilities more clearly at all levels of administration; and provide improved supervision and technical guidance at central, provincial and district levels. The key concept is that of integrated health centers at the district level, each combining the services of existing policlinics and maternal and child health (MCH) centers, including family planning, and also catering for school health, nutrition, communicable disease control, health statistics, environmental health, health education, dental health and public health nursing. These 'A Class' centers also supervise less comprehensive B Class health centers, if the size of the district warrants these secondary facilities, and sub-centers in the villages, and at the same time have access to referral and advisory services at the provincial level. The specification of training levels and requirements and information and research needs are the other main elements of the plan.

303. Development activities in the health sector in the development plan has largely followed projections contained in the first Annex to the Master Plan. The rate of progress in all aspects of the health services in 1969 was considerably faster than in 1968. Development funds which became available under the Five Year Plan somewhat eased the financial restrictions of the previous year. Although the funds were limited in relation to requirements, they had a marked effect on implementation, particularly in the following areas of the program:

- a) Health centers: By the end of 1969, the number of operational type A and type B public health centers (combining the activities of MCH centers and polyclinics) reached 289. Another 180 are to be equipped and have their staff supplemented during 1970. Although 74 new MCH centers were opened in 1969, most of them by non-governmental organizations, present emphasis is on improving the services of the existing network, in preparation for integration. Upgrading training of midwives has continued and increased attention was given to the training of traditional midwives (dukuns).
- b) Family Planning: Preparatory to family planning being carried out on a larger scale through the health services in provinces in Java and Bali, in-service training for paramedical staff commenced. In 1969, such training was given to over 2,000 workers, through short courses. With material support from non-governmental and bilateral sources, 810 MCH or health centers have commenced family planning work, so far on a limited scale.
- c) School health services: This aspect of the program achieved targets set for 1969, and exceeded targets in in-service training for staff of the health services. There is, however, a shortage of qualified personnel which hampers any major expansion.
- d) Health laboratories: In line with the Government's established priorities, first attention in 1969 was given to rehabilitation of the provincial public health laboratories. Following a survey of the resources and conditions of each institution, equipment for the laboratories in Djakarta, Semarang, Jogjakarta, Surabaya, Medan, Palembang, Samarinda, Denpasar and Mataram were being installed at the end of the year. Another three provincial units, and ten district (Kabupaten) laboratories will be similarly improved during 1970. At the outset of 1970, a national refresher course was arranged for instructors in laboratory techniques, who in turn will train 300 district and health center staff during 1970.
- e) Hospital services: Priority was given to the rehabilitation of hospitals providing practice training for paramedical schools. Paediatric and maternity awards of 51 such hospitals were equipped in 1969. Another sixteen will receive equipment in 1970. As a close second priority, the Government plans to rehabilitate the Kabupaten referral hospitals at a rate geared to the progress of integration of the health services.

- f) Communicable disease control; Yaws control was extended in 1969 to include all provinces. The treponematosi control units now cover 84.2 percent of the total population. During the year, close to 38 million people were examined, of whom 174,000 were treated. Yaws control is being integrated into the general health services in those areas where it has reached the consolidation phase (where there are less than 0.5 percent infectious cases). Work in 1970 is being concentrated on the outer islands, and staff has been trained accordingly. In leprosy control, 1,742 new cases were recorded during the first three quarters of 1969, bringing the total number of registered cases to 52,064. In tuberculosis control, 1969 was primarily devoted to a major training effort in preparation for a substantial program of BCG vaccination through the network of health centers and units. By September 1969, a total of 4,812 paramedical staff had received training, 400,755 children were vaccinated. The aim in 1970 is to carry out 5 million vaccinations.
- g) Staff training: Training for nurses and midwives is being given a more practical and field-oriented content, with emphasis on public health. Family planning is also being made part of the curriculum. In the course of 1969, training equipment was installed in 32 midwifery schools, 42 nursing schools, as well as in two national and seven provincial training centers. A substantial increase in upgrading and in-service training of various types took place in 1969. Well over 4,000 health staff received training grants to enable them to participate.

304. One of the most serious problems preventing accelerated implementation of the plan for strengthening the health services was the shortage of paramedical personnel. Although the output of nurses and midwifery schools increased markedly, it remained far from sufficient to satisfy the demand. Lack of dormitory facilities at the training schools and the often poor financial position of prospective trainees are given as the basic reasons. Shortage of full-time teachers is seen as another reason. The Department of Health is making a concerted effort to train more teachers and has sought UNICEF support. Secondary employment, because of very low remuneration, is still very common amongst health workers. The fifty percent increase in salaries which came into effect in April 1970 should ease this situation to some extent but it remains a serious obstacle to effective health administration.

305. A problem for which a more comprehensive solution still lies in the future is the reorientation of medical education to become more closely geared to the needs of the integrated public health services. In 1969, consultations to this end were started between health and education authorities and it is expected that a further series of such discussions will eventually lead to a unified approach.

The Proposals for 1971-74

306. For 1970, a second annual plan of action was formulated, agreed and included as a second annexure to the Master Plan. Implementation is proceeding satisfactorily. Central and regional budgets and budget projections are becoming available to cover the remaining four years of the planning period, and the program has now reached the stage at which it is considered feasible and desirable to undertake a longer-term approach. Accordingly, the proposed third annex to the Master Plan embodied a plan of action for the four years 1971 to 1974 which describes, inter alia, the specific commitments of the Government, UNICEF and WHO.

307. The main emphasis is on training. The shortage of medical and paramedical staff to man health facilities has emerged as the main obstacle to more rapid development. The new emphasis on family planning, described in the following section, will create much greater competition for scarce health personnel and could be critical for other health services unless the output from training centers rapidly expands.

308. Special efforts are to be made, with assistance from WHO in particular, to step up the quality as well as quantity of training. Over 100 of the 450 schools providing basic training for paramedical personnel have already been supplied with extra teaching supplies and equipment and a further 150 could be similarly improved with the resources projected in the four-year plan. Field training is also to be intensified and the number of national and provincial training centers increased from 9 to 15.

309. The steps towards integration in health services are to continue, with the activities of separate MCH centers and polyclinics gradually absorbed into multipurpose primary or secondary (A or B Class) public health centers. As these become adequately staffed, supplementary equipment will be supplied to make them fully operational. Such equipment could be required for 1,230 centers in 1971-74. The work of the 5,600 MCH centers not absorbed by the new multipurpose units will be intensified, and school health services are being treated as another priority area. In hospital improvement, priority is being given to hospitals offering practice training for students of paramedical schools. Equipment is to be provided for a further 79 such hospitals over the period, and other resources which become available will be used to upgrade referral hospitals at the district level. Provincial public health laboratories are to be improved, and a central laboratory established at Djakarta, from the Government's own funds. UNICEF is being asked to equip district health laboratories at the rate of 30 a year.

310. The program for communicable disease control concentrates efforts in tuberculosis control on BCG vaccination, starting with mass vaccination in two provinces. Yaws control is oriented to peripheral islands and it is hoped that the country as a whole will have reached the consolidation stage in 1974. Leprosy control activities are to be reorganized and the staff increased. Special efforts are to be made to enrol the help of village social committees, of which there are several thousand throughout Indonesia, to assist case-finding and regularity of treatment.

311. The resources for health development are slim and the program outlined above reflects a careful choice of priorities. Approximately Rp 6.2 billion (US\$16.5 million) is planned for the following uses:

	1971	1972	1973	1974	Total
	(in millions of US dollars)				
For basic health services	1.51	1.66	1.83	2.01	7.01
For training	1.06	1.16	1.28	1.41	4.91
For disease control	0.59	0.64	0.71	0.78	2.72
For transport and supply operations	<u>0.41</u>	<u>0.46</u>	<u>0.49</u>	<u>0.54</u>	<u>1.90</u>
	3.57	3.92	4.31	4.74	16.54

312. To this amount it is proposed that UNICEF, which since 1950 has given nearly \$14 million for assistance to health services and which is closely associated with the whole program through its office in Djakarta, undertake a parallel four-year commitment of approximately \$5.5 million mainly for supplied and equipment for field health services, disease control programs and training purposes.

313. Past WHO assistance has been mainly in the form of short-term consultants and advisors, of whom there were eleven in Indonesia at the end of 1969 giving technical guidance in fields which included environmental sanitation and health statistics. For 1971 the number of advisors could increase to fourteen, possibly including a longer-term advisory team comprising a public health officer, a health advisor, a public health nurse and a sanitarian to work at the national administrative level. WHO also provides fellowships and supplies and has a separate West Irian program financed with FUNDWI resources.

314. Bilateral and non-governmental external assistance has been confined mainly to family planning programs. There appears to be considerable scope for additional project aid and technical assistance from bilateral sources within other high priority areas of the program. The particular need is for extra assistance in meeting the external requirements for personnel and equipment for the training programs on which the whole effort depends.

C. Family Planning

315. Indonesia is the fifth most populous country in the world with an estimated population of 121 million in 1970. The population of 121 million in 1970. The population of Indonesia has been growing at a rapid and accelerating rate. The annual growth rate has increased from 1.5 percent between

1930-60 to an estimated current rate of 2.9 percent. This has imposed severe burdens on the growth rate of income per person. Until 1969, GDP was probably not growing as fast as the population rate. In the absence of massive family planning efforts the population of Indonesia is expected to increase by 75-85 percent between 1965 and 1985.

316. As in many other countries, traditional views about the size of the family have run counter to the idea of planned parenthood, and the fact that large areas of Indonesia were sparsely populated lent support to the belief that there was scope enough for large population increases. Opposition to family planning had some legal sanction in the penal code left over from colonial times, which prohibits public activities directed towards prevention of pregnancies or the provision of assistance and facilities to that effect. The initial approach to family planning organization was therefore cautious and modest and it was not until 1957 that the first voluntary association for family planning was established. By 1963 a small public information program has been initiated and nine branches of the association had been formed in Java, Bali and Sumatra. Public seminars were held in several major cities in 1963. The climate by then had become favorable enough for a Family Planning Clinics Program to be initiated, services being provided through the Maternity and Child Health Centers. In that year, too, the Indonesian Planned Parenthood Association was officially recognized and formally approved as a corporate body by the Government.

317. In August 1967 the President indicated in Parliament that serious attention should be given to activities directed towards birth control. Although a semi-governmental body was created in February 1968 and charged with the responsibility of drawing up a family planning program, it was not until late in 1968 that the present National Family Planning Institute (LKEN) was established and ratified, following a Presidential instruction of September 1968 to the State Minister for People's Welfare "to coordinate, guide and supervise the aspirations of the people in the field of family planning" and "to organize as soon as possible a body or institution to bring together all activities in family planning.

318. The National Institute's activities were to be implemented through a decentralized administrative structure consisting of a Central Family Planning Institute and subsidiary institutes at the provincial and regional levels. The Central Institute is composed of a National Family Planning Advisory Council on which are representatives of various departments, organizations, community leaders and individuals, 40 in all, to meet once every two years; a Central Plenary Executive Board with 17 members which is required to meet once every three months; and an Inner Board of eight members, meeting monthly. A Board of Executive Directors is responsible for coordinating and integrating operational plans of the provinces and regencies in order to conform with the national program and is assisted by several bureaus each in charge of specific spheres of activity. The organizational structure and functions of the provincial institutes reflect those of the central body. At the regency level the Bupati (Regent) acts as coordinator and appoints one or more persons as full-time staff on an executive board. The institutes

are still in the process of being developed and established. The central body has yet to have a permanent office, a full staff and its own operational budget.

319. Separately, an ad hoc committee set up by the Government drew up the first National Family Planning Program. For the first plan period, 1969-74, it was to be confined to the densely populated regions of Java, Madura and Bali and was to be implemented consecutively in major cities and capitals of kabupaten, (districts) in capitals of ketjamanatan (sub-districts), and rural areas, ultimately with one center for every three villages. The overall target was to achieve a cumulative total of 600,000 acceptors at the end of the five-year period.

320. The inadequacy of the target, which would have resulted in preventing only 150,000 births, was soon recognized. It was raised to three million acceptors, which would prevent about 600,000 births but in recognition of initial organizational difficulties the original target for the first year of 100,000 acceptors was left unchanged. The figures for subsequent years were revised as follows:

<u>Year</u>	<u>Number of Acceptors</u>	
	<u>Per Year</u>	<u>Cumulative</u>
1969	100,000	100,000
1970	200,000	300,000
1971	400,000	700,000
1972	800,000	1,500,000
1973	1,500,000	3,000,000

The total allocation for the plan period was raised to Rp 6 billion from the Rp 1.2 billion originally proposed. The budget allocation for 1969/70 was Rp 750 million of which the local cost component was estimated at Rp 120 million.

321. The program provides for information on family planning to be given particularly to "eligible women", i.e., to the more than eight million mothers - one million in cities and seven million in the villages - especially expectant mothers, visiting Mother and Child Health Centers (MCH's) and generally to the 15 million women of child-bearing age. The family planning service centers are to be located in existing hospitals, MCH centers and special family planning clinics. The number of new clinics to be opened each year is projected at 2,400 over the five years of the plan, of which half will be fully equipped clinics. For the time being only clinics where a doctor is available are permitted to extend service and medical treatment; other ("simple") clinics may only provide information and then refer patients to clinics where doctors are available.

322. The primary responsibility for clinics and medical services in family planning has been delegated by the LKBN to the Ministry of Health. To staff the clinics the Ministry has arranged for the training of 330 physicians, 900 midwives, over 1,000 field workers and 120 social workers.

A national training center and six provincial training centers have been established by the Indonesian Planned Parenthood Association (IPPA). At the national center it is planned to train doctors, midwives, field workers and other personnel totalling 1,500, an average of 300 persons per year. The six provincial centers will train professional executive personnel at the rate of 2,220 per year until a total of 4,000 has been achieved.

323. The Armed Forces Medical Division has set itself a five-year target of 230,000 acceptors and to help reach this target has decided to open more family planning clinics in its existing health facilities. At present only a few of the approximately 330 health facilities offer such services. Priority will be given in the first two years to providing family planning facilities in the 180 general clinics on Java, Madura and Bali. The third year will be devoted to opening 150 clinics on other islands.

324. The Indonesian Planned Parenthood Association has been the leading private organization in family planning for over ten years. However, with the commitment of the Government to family planning on a national scale, which goes beyond the range of voluntary efforts, the IPPA has changed its role and its program has shifted from the past emphasis on clinical service and supplied to a program focusing mainly on information and training. Other private organizations like the Muhammadiyah and the Council of Churches have also indicated willingness to provide family planning information and facilities in their health centers, and it is a part of the function of the LKBN to coordinate such efforts and integrate them into the national plan.

325. Foreign assistance for family planning has been available from many sources. US-AID has been the main contributor both directly to the LKBN and to the Ministry of Health and indirectly to associations which have helped and assisted the IPPA. The International Planned Parenthood Federation is providing support to the IPPA and to the national and provincial family planning training centers. The Ford Foundation is providing direct support to the IPPA and to the city of Djakarta, primarily in organization and information. The Pathfinder Fund is providing small, flexible grants to many family planning activities. The Population Council is providing funds for post partum pilot projects and materials to the IPPA. The Japanese Family Planning Association has provided materials and a vehicle for the IPPA. The Netherlands is to provide a grant for construction of a national family planning training center. UNICEF has given extensive support to the Ministry of Health in improving MCH's and general healthy services including some family planning orientation courses. The program of WHO, especially in health planning and education concentrates on institution building for the long-range support of family planning. Proposed assistance from the Swedish International Development Authority (SIDA), UNESCO and the Colombo Plan would do the same in family life education. The UN has a Southeast Asia regional population officer based in Djakarta assisting in the formulation and preparation of programs and policies for family planning.

326. In spite of this activity, national and foreign, there was in 1969 no genuine national program or effective overall planning for implementation. Following a request by BAPPENAS and the LKEN to the UNDP and the World Bank a joint UN-WHO-IBRD population mission visited Indonesia in October and November 1969. The principal objectives of the mission were to advise on planning, execution and evaluation of a long-range family planning program and to suggest a specific action program for the remainder of the current Five-Year Plan period. The mission's terms of reference covered assistance to the National Family Planning Institute in:

- a) Reviewing and as appropriate suggesting revisions in the targets of the present program;
- b) Developing a comprehensive program for the achievement of the existing or modified targets, with specific operational plans for establishment of facilities, for recruitment, training and utilization of personnel, for supply, for education and communication, for evaluation and research, etc;
- c) Drawing up plans for the expanded organization necessary for the execution of the program and defining the roles to be played by the various operating organizations which can participate in its execution; and
- d) Determining the extent of foreign assistance, both technical and financial, needed for effective execution of the program.

327. In January 1970 a National Coordinating Body for Family Planning was established by Presidential decree which specifically provided that the "general responsibility for carrying out of the National Program of Family Planning" was with the President himself, "with the delegation of responsibility for its daily execution to the State Minister for People's Welfare".

328. A ministerial-level National Council for Guidance of Family Planning was constituted under the Decree for "guidance and control of the implementation of the duties of the National Coordinating Body for Family Planning".

329. The Coordinating Body was to have a Chairman nominated by the President, two Deputies appointed by the Minister of State for People's Welfare and other members appointed (and dismissed) by the Chairman. It is to be assisted in the daily execution of its task by a National Advisory Council for Family Planning representing community interests and Government agencies directly concerned with implementation. The Chairman was appointed in May 1970.

330. The Report of the UN-WHO-IBRD Mission was presented to the President on July 9, 1970. The President directed that the Report should be immediately examined and that a plan of operations be drawn up to implement those recommendations that were acceptable, for submission to the National

Council for Guidance of Family Planning (BKKBN). Accordingly, the Coordinating Body appointed a Task Force which submitted its recommendations on September 1.

331. The BKKBN has reviewed the recommendations of the Mission and the Task Force and has made its own recommendations which have in turn been submitted to the Government for approval. The five year plan for 1971-75 of the BKKBN is based on the same total target figure of six million acceptors recommended by the Mission. Under reasonable assumptions concerning the continuation rate of new acceptors and their fertility, the effect of this program would be to reduce the birth rate in Java and Bali by about 8.5 per 1,000, and for the whole of Indonesia by 5.6 per 1,000 in 1976. Given the expected decline in the death rate, population growth in these regions would be reduced respectively by 0.8 percent and 0.5 percent in that year. The cost, however, is estimated at \$52.4 million (with a foreign exchange component of \$12.7 million) instead of the \$45 million estimated by the Mission.

332. With the final approval of a Family Planning Program, the setting up of a special body to implement it, and an assured budget to meet actual requirements, the stage is now set for full-scale operations. One of the main factors that will determine the pace of implementation will be the administrative capacity to mount a massive program across a wide front, soon enough to have the impact necessary for achieving the annual targets.

CHAPTER 6

URBANIZATION AND URBAN PROBLEMS: DJAKARTA RAYA D.C.I.

Introduction

1. This is the first Bank report dealing with the economics of urbanization in Indonesia. It is concerned primarily with Djakarta Raya, greater Djakarta, Indonesia's capital, its largest and fastest growing city, its harbor and its airline entrance to the world. Sixty percent of the monetary transactions of Indonesia occur in Djakarta. Nearly half of the foreign investment projects approved since January 1, 1967, will be located in Djakarta and its environs. Djakarta is an important city for the Bank to analyse from the point of view of possible urban projects. It is important also because it provides an interesting case study in the continuing research of the Urbanization Division of the Economics Department of the Bank.
2. This report will consider the administration, the revenue and the development budget of Djakarta. The people, migration into Djakarta and housing problems will be discussed followed by a review of the major categories of infrastructure. The use of land in Djakarta is considered in terms of planning instruments, the Master Plan, ownership and land transfer laws, construction permits, and land prices. Some general comments about industrialization and development in Djakarta conclude the report.
3. By way of general introduction, the report begins with a discussion of urbanization in Indonesia as a whole and of regional administration and finance throughout the country.

Urbanization and Industrialization in Indonesia

4. Indonesia is not an urban country. Urbanization, the relative increase of the population living in urban areas, and industrialization, the relative increase of the labor force employed in industry, are not taking place rapidly in Indonesia if at all. Nevertheless, the absolute number of people living in Indonesian cities is rising as the total population continues to explode. Urban infrastructure and public services, already inadequate, are being stretched. New demands are being placed on urban financial and managerial resources, demands which the cities are meeting with difficulty if at all. In Djakarta, the capital of Indonesia, the largest and fastest growing city, an imaginative city government is confronted with slums and problems of congestion, pollution and lack of essential services and facilities. Without assistance the cities of Indonesia may be unable to become the incubators of industrial development as cities have been in the high growth-rate areas of the world.

5. The population of Indonesia classified as "urban" in the 1961 (most recent) census of population was 14.5 percent (14.3 million) of the total population of 97 million. It is estimated by the Central Bureau of Statistics that this percentage has not changed since 1961, and it is projected by the regional planning office of BAPPENAS that the urban population of Java will be 15 percent of the total in ten years.

6. It appears that the percentage of the population living in large cities is increasing slightly. While the total population is estimated by the Central Bureau of Statistics to have increased by over 20 million persons, or 22 percent, between 1961 and 1969, the population of Indonesia's 14 largest cities (150,000 or more) increased by about 1.9 million persons, or 22 percent between 1961 and 1968. ^{1/} Figures for the 26 largest cities (100,000 or more) derived by the Directorate of City and Regional Planning are given in Table 1. These estimates are higher than those of the Central Bureau of Statistics but are probably less reliable.

7. It is supposed that natural rates of population growth are lower in urban than in rural areas. According to a Family Planning Mission which visited Indonesia in 1969, "the annual growth rate (of the total population) has increased from 1.5 percent between 1930-69 to a current rate of 2.9 percent." Natural growth rates of 2 percent have been assumed in the past in Djakarta, though some recent estimates indicate a current rate of nearly 3 percent. If natural growth rates are lower in cities, this would explain how many cities are receiving some net migration from rural areas even though their populations are increasing no faster than the national average.

8. The contribution of the largely urban-based manufacturing sector to the national product declined according to national accounts estimates from 13.2 percent in 1958 and 12.6 percent in 1959 to 12.0 percent in 1967. It may have risen again slightly in 1968-1970. During this same period per capita income, estimated at between US\$80 and 85 a year is unlikely to have changed significantly. With the possible exception of Djakarta where real per capita income is estimated to have risen slightly from 1966 to 1968 in spite of substantial immigration, the cities of Indonesia have not provided the nation with dynamic growth poles even though they possess several of the supposed ingredients of growth, e.g., in 1963, a higher percentage of children attending school (74.9 to 51.4 percent) and a significantly higher percentage of high school graduates (15.3 to 1.8 percent).

9. The record of Indonesian cities may be analyzed in terms of a number of variables including the colonial past, the comparative agricultural and mining advantage of Indonesia in international trade, the national emphasis in recent years on mining and agricultural output, the physical difficulties of creating a national market as well as a nation from some

^{1/} See Nugroho, "Economic Survey" The Far East and Australia (London; Europa Publications Ltd., 1970). The source given is the Central Bureau of Statistics of Indonesia.

3,000 separate islands, the low per capita income, and the imperfectly developed money economy. But it would appear that an important variable may also be the manner in which Indonesian cities have been administered and financed.

Regional Administration and Finance

10. In the sense of everyday habits, customs and loyalties of the people, Indonesia is decentralized. Identification with Bali or Jogjakarta, or with family or village, or with social class or occupational group is great. In the sense of public finance and the power of significant decision making, however, Indonesia is centralized, and cities as such do not stand high on the administrative and financial ladder.

11. Indonesia has a Central Government with headquarters in Djakarta and regional offices throughout the nation. The land area is divided into 26 regions or Daerah, each of which has its own Daerah or Provincial government. From the standpoint of revenue the provincial governments are extraordinarily dependent upon the Central Government. This is shown in Table 2. In 1970, the revenues actually collected by provincial governments and their subdivisions accounted for only 1.4 percent of the total collected in Indonesia, and 7.9 percent of total local and regional government revenues.

12. To some extent this calculation depends on the definition of the level of government for which tax collectors work. Thus, many civil servants are employed in offices which are provincial and branches of the Central Government at one and the same time. They are paid by the provincial government from funds provided by the Central Government for that purpose. Lines of authority are blurred. For example, all of the land tax (Ipeda) collected in a province is collected by the Central Government and turned over to the provincial governments (10 percent) and to their sub-regions (90 percent) for their development (capital) purposes. This gives the provinces less certain control over their revenues and less incentive to use the land tax to advantage.

13. In addition to the land or real estate tax, the Central Government has collected for local and regional governments (see Table 3) a tax on exports (ADO) ^{1/} and it has made annual subsidy contributions to the provinces and their sub-regions based on a formula which takes into account population,

^{1/} For some years the entire export tax paid in foreign exchange was turned over to the province from which the goods were actually exported. Largely because of controversy amongst provinces of origin and of actual export, this practice has been changed. The Central Government now pays in Indonesian currency an amount equal to 105 percent of each provinces' 1969/70 ADO receipts, and it intends to supplement these payments in the future with special subsidies to make up for inequities arising from the origin of the ADO payments.

Table 1: Population Increase; Cities of 100,000 and Over in 1968;
1961 to 1968

Province or City	Population		% Change 1961-1968	City as % of Province	
	1961 ('000)	1968		1961	1968
Djakarta Raya	2,973.1	4,500.7	51	100	100
West Java	17,614.5	20,800.0	18	-	-
Bandung	1,032.1	1,164.8	12	5.6	5.6
Bogor	154.1	180.0	16	0.9	0.9
Tjirebon	158.3	185.0	28	0.7	0.9
Central Java	18,407.5	20,003.0	8.6	-	-
Pekalongan	102.4	108.3	6	0.6	0.5
Semarang	503.2	614.2	22	3.0	3.0
Surakarta	367.6	395.5	7.7	1.9	1.9
Tegal	89.0	103.5	15	0.5	0.5
Jogjakarta	312.7	396.3	27	-	-
East Java	21,832.0	25,879.0	18.5	-	-
Kediri	158.9	185.9	11	0.6	0.6
Madiun	123.4	155.2	18	0.4	0.6
Malang	341.5	405.2	18	1.4	1.5
Surabaya	1,007.9	1,195.0	18	4.6	4.6
South Sumatra	4,847.2	n.a.	n.a.	-	-
Palembang	475.0	630.2	32	n.a.	n.a.
Tandjung Karang/ TL. Betung	134.0	213.0	58	n.a.	n.a.
Djambi	744.4	882.0	5.2	-	-
Djambi	113.1	132.6	17	15	16
West Sumatra	2,319.1	2,762.3	19	-	-
Padang	143.7	215.8	50	6	10
North Sumatra	4,964.7	5,936.6	19	-	-
Medan	479.1	572.9	19	9.5	9.5
Pematang-Siantar	114.9	137.3	20	2.2	2.3

Table 1 (cont'd)

<u>Province or City</u>	<u>Population</u>		<u>% Change</u> 1961-1968	<u>City as % of Province</u>	
	<u>1961</u>	<u>1968</u>		<u>1961</u>	<u>1968</u>
	('000)				
West Kalimantan	1,581.0	2,179.9	38	-	-
Pontianak	150.2	213.8	42	9.3	9.7
South Kalimantan	1,473.2	1,820.0	24	-	-
Bandjarmasin	217.1	292.3	34	14	14
East Kalimantan	550.8	723.1	31	-	-
Balikpapan	91.7	153.5	68	17	22
Samarinda	69.7	112.3	62	13	16
North Sulawesi	1,310.1	1,502.6	15	-	-
Menado	129.9	137.5	6	10	9
South Sulawesi	4,703.6	5,532.4	17	-	-
Makassar	384.2	441.3	15	8	8

Total Provinces, including Djakarta and Jogjakarta, 1961 83,570.9

Total Provinces, including Djakarta and Jogjakarta and using
1961 figure for South Sumatra 97,765.1

Total Cities, 1961 9,826.8

Total Cities, 1968 12,842.1

Percent Increase Total Cities = 30%

Percent Increase Total Provinces = 17.2%

Cities as per cent of Total, 1961 = 11.7%

Cities as per cent of Total, 1968 = 13.1%

Source: TATA KOTA DAN
City and Regional Planning Workshop, Dept. of Public Works
Percent change 1961-1968 calculated by World Bank.

Table 2: Central Versus Lower Level Government Revenues

<u>Year</u>	<u>Revenues raised by local and regional gov'ts for their own use</u> (millions)	<u>As a % of total local and regional gov't revenues</u> %	<u>Revenues Collected for local and regional gov'ts by the central government</u> (millions)	<u>As a % of total local and regional gov't revenues</u> %	<u>Central government subsidies to provinces</u> (millions)	<u>As a % of total local and regional gov't revenues</u> %	<u>Central gov't revenues</u> (millions)	<u>Revenues collected by local and regional gov'ts as a % of total gov't revenue</u> (2) <u>(2+4+8)</u>	<u>Revenues collected by the central gov't at a % of total gov't revenue</u> (4+8) <u>(2+4+8)</u>
1952	200.0	9.6	n.a.	n.a.	1,887.0	90.4	12,246.8	1.6	98.4
1953	340.0	15.6	n.a.	n.a.	1,836.0	84.4	13,590.5	2.4	97.6
1954	377.7	15.8	n.a.	n.a.	2,355.0	86.2	11,788.7	3.1	96.9
1955	429.0	19.5	n.a.	n.a.	1,775.0	80.5	14,226.5	2.9	97.1
1967	3,236.3	16.8	8,410.6	43.8	7,562.3	39.4	84,877.7	3.4	96.6
1968	3,424.0	9.8	13,325.7	38.3	18,058.3	51.9	185,233.4	1.7	98.3
1969/70 (fiscal year)	5,000.0	7.9	25,090.4	39.5	33,412.0	52.6	334,762.0	1.4	98.6

Note: If revenues collected for local and regional governments by the Central Government (column 4) were greater than zero, the figures for 1952, 1953, 1954 and 1955 would be even larger.

Source: M. S. Dris, "Taxation in Indonesia", Ekonomi dan Keuangan Indonesia, XI (August-September, 1958), p.408; and Department of Finance, R.I.

Table 3: ADO Export Receipts by Regional Governments

(In thousand of US dollars)

<u>Regional Governments</u>	<u>1969/1970/1</u>				<u>Total</u>
	<u>1st Qtr.</u>	<u>2nd Qtr.</u>	<u>3rd Qtr.</u>	<u>4th Qtr.</u>	
1. D. I. Atjeh	216.2	257.6	179.2	307.8	940.8
2. North Sumatra	2,637.3	3,134.0	2,443.2	3,113.7	11,328.2
3. West Sumatra	350.5	237.6	328.6	522.8	1,439.5
4. Djambi	491.3	604.2	479.6	550.3	2,125.4
5. Riau	655.3	613.9	697.4	708.1	2,674.7
6. South Sumatra	1,976.0	3,115.6	2,440.9	2,851.2	10,383.7
7. Bengkulu	3.5	74.3	3.1	101.5	182.4
8. Lampung	744.9	1,228.5	1,021.9	752.6	3,747.9
9. West Java	37.6	59.4	35.6	14.1	146.7
10. D. C. I. Daya	794.2	855.3	723.4	680.3	3,053.2
11. Central Java	277.9	456.6	235.2	332.8	1,302.5
12. East Java	531.8	683.1	452.7	676.7	2,344.3
13. Bali	44.2	39.5	44.6	80.8	209.1
14. West Nusa Tenggara	14.3	12.4	15.3	12.5	54.5
15. East Nusa Tenggara	41.4	32.6	35.0	43.7	152.7
16. West Kalimantan	625.6	852.7	697.1	848.7	3,024.1
17. Central Kalimantan	117.8	212.5	209.5	194.7	734.5
18. South Kalimantan	392.6	436.6	348.1	263.2	1,440.5
19. East Kalimantan	-	-	-	769.2	769.2
20. North Sulawesi	300.9	152.2	267.5	272.8	993.4
21. Central Sulawesi	93.0	54.9	44.1	-	192.0
22. South East Sulawesi	36.2	31.9	83.6	121.9	283.6
23. South Sulawesi	85.2	76.5	132.9	101.7	396.3
24. North Maluku	12.3	14.7	9.4	7.2	43.6
25. Maluku	52.5	58.2	45.2	66.7	222.6
<u>Total</u>	<u>10,532.3</u>	<u>13,294.8</u>	<u>10,973.2</u>	<u>13,405.0</u>	<u>48,205.6</u>

/1 April 1969 through March 1970.

Note: Totals may not add up due to rounding.

Source: Ministry of Finance

Table 4: Contribution by Central Government to Provinces^{1/}
Totals and Per Capita, 1968 and 1969/70

Province	Population (m)	1968 Contribution (Rp m)	Per Capita (Rp)	1969/70 Contribution (Rp m)	Per Capita (Rp)
East Kalimantan	0.7	188.6	286	777.0	1,179
Central Kalimantan	0.6	175.5	296	605.1	1,018
Central Sulawesi	0.8	201.6	243	811.8	993
Bengkulu	0.5	2/	2/	378.7	779
Southeast Sulawesi	0.7	161.5	241	515.1	737
Djambi	0.9	195.1	219	589.5	663
Atjeh	1.9	307.9	158	1,287.1	660
Maluku	0.9	285.6	303	562.0	595
Riau	1.5	325.6	220	719.9	478
North Sulawesi	1.6	458.7	293	749.3	473
South Kalimantan	1.8	294.6	164	792.3	449
West Kalimantan	1.9	242.4	128	827.4	437
East Nusatenggara	2.3	564.0	236	919.8	392
West Sumatra	2.8	512.9	185	1,040.9	379
Djakarta Raya	4.7	850.4	178	1,739.7	367
North Sumatra	5.9	1,313.8	221	2,067.1	348
Jogjakarta	2.6	455.6	172	866.0	328
Lampung	2.0	262.5	131	634.2	319
South Sumatra	3.3	533.7 ^{2/}	141 ^{2/}	1,045.7	315
South Sulawesi	5.4	765.8	192	1,598.0	296
Bali	2.1	262.3	123	579.7	272
West Nusatenggara	2.2	233.1	108	560.5	259
West Java	19.5	2,939.0	150	4,365.9	224
Central Java	21.7	3,117.0	143	4,390.0	202
East Java	25.8	3,251.3	137	4,676.7	182
Total		17,898.5 ^{3/}		33,100	

^{1/} Since criteria and administrative regulations applying to West Irian differ from those applying to other provinces, data for West Irian are not included here. In 1968, Rp 4.6 billion was budgeted for West Irian, and in 1969/70, Rp 8.7 billion, for some 907,000 inhabitants.

^{2/} Bengkulu included in South Sumatra in 1968.

^{3/} Excludes Rp 160 million 'reserve' not distributed by provinces.

Source: Departemen Dalam Negeri.

public employees, area, roads, and rice fields. ^{1/} (See Table 4) Since few revenue-producing possibilities are left to the provinces, unless they add surcharges to the Central Government taxes, they are very much dependent on these annual contributions plus Ipeda and ADO. (See Table 5)

Table 5: Total Income, Provinces ^{1/} and Kabupaten
1968 and 1969/70

(In millions of repiahs)

	<u>1968</u>	<u>1969/70</u>
<u>Central</u>		
Central government contributions	18,058	33,412
Share in petrol tax	227	227
Special contribution for development	200	-
<u>Regional</u>		
Provincial taxes, retributions	1,904	2,739
Kabupaten taxes, retributions	1,529	2,261
Surcharge on petrol	-	664
<u>Other</u>		
Ipeda	4,000	7,000
ADO (export tax)	16,500 ^{2/}	17,200 ^{3/}
<u>Total</u>	<u>42,418</u>	<u>63,502</u>

^{1/} Not including West Irian

^{2/} At a rate of exchange \$1 = Rp 300

^{3/} At a rate of exchange \$1 = Rp 350

Source: Department of Interior. Taken from Martin Sanders, "Regional Finance" Bulletin of Indonesian Economic Studies, Vol. VI, No. 2, July, 1970, p. 69.

So, of course, are the sub-regions of the provinces, including the municipalities.

^{1/} The subsidy contribution is determined by the following base:

Number of population	17.90%
Number of officials and pensioners	16.02%
Area of region	24.11%
Length of ways	23.69%
Area of rice fields	14.98%
Special characteristics (only Djakarta)	3.30%

14. The extent to which some cities add to their revenue by a variety of special taxes is shown in Table 6. However, this

"maize of tax regulations is administered in haphazard fashion, leading to understandable taxpayer complaints. The evidence strongly suggests that the generation of additional revenues in the future will depend not on the use of new taxes, but rather more effective administration of those tax laws already enacted." 1/

15. Major reforms are needed if cities are to become more important in the future development of Indonesia. Administratively, more mayors must have independent authority. Financially, cities need to have more direct control over more of their sources of revenue. In particular, cities should be allowed to assess the value of real estate and buildings in their jurisdictions, establish real and personal property tax rates and collect these taxes if they wish to do so.

16. It might also be desirable to modify the presumed relation between some taxes and city budgets. At present there is a presumption that the real estate tax is used to finance development or capital expenditures. (The IPEDA and IREDA are acronyms for phrases meaning contribution for the rehabilitation or development of a region), and there is a presumption that the Central Government subsidy is used to finance current or routine expenditures (public employees are paid by the Central Government). But the reverse might be more logical. Property tax payers in major cities should perceive that their tax payments actually finance routine local government operations which benefit them currently and directly, such as city administration, the maintenance of local streets, rubbish collection, the protection of property from fire and other damage, etc., while the Central Government should carry out the planning and financing of major improvements on a regional and national basis, taking account of population growth and of growth priorities.

17. In any event, the administration of property tax assessment and collection needs to be substantially improved. For example, the costs of administering the Djakarta property tax branch of the national Ministry of Finance in 1969 has been estimated to be US\$0.38 for every \$1.00 tax revenue collected, 2/ though the additional costs of collecting additional taxes may be much lower. A part of the problem stems from the fact that taxes, like

1/ R. Stafford Smith and Theodore M. Smith, "The Political Economy of Regional and Local Finance in Indonesia," August 1970 (mimeo), p. 16.

2/ Smith, op. cit., p. 47.

Table 6: Municipal Revenues in Indonesia, Selected Cities

Budgeted Revenues for 1969/70
(thousands of rupiahs)

Cities	Semarang		Solo		Makassar		Djakarta		1969/70 Realized Revenues Djakarta
		%		%		%		%	
I. Subsidies from the Central and/or Provincial Government	84,367	19.1	88,062	30.6	118,732	35.5	2,044,000	35.1	1,988,692
II. Tax Revenues									
1. Motor Vehicle Tax	-		-		-		500,000	8.6	819,029
2. IREDA/IPEDA	57,000	12.9	25,500	8.7	20,000	6.0	400,000	6.9	200,922
3. Tax on changing ownership of motor vehicles	-		-		-		700,000	12.0	1,279,721
4. Entertainment tax	28,000	6.3	10,000	3.4	55,800	16.8	200,000	3.4	398,268
5. Development tax	21,000	4.7	2,000	0.7	12,000	3.6	100,000	1.7	181,752
6. Radio tax	62,000	14.0	24,000	8.2	-		5,000	0.1	36,353
7. Tax on foreigners	70,000	15.8	5,000	1.7	-		7,500	0.1	-
8. Tax on dogs	70	0.0	25	0.0	-		500	0.0	170
9. Slaughter tax	250	0.1	800	0.3	75	0.0	10,000	0.2	1,014
10. Tax on motor-vehicles	4,000	0.9	1,008	0.3	-		2,000	0.0	15,630
11. Liquor tax	200	0.0	15	0.0	250	0.1	1,000	0.0	990
12. Advertisement tax	1,000	0.2	400	0.1	-		2,500	0.0	6,057
13. Street taxes	2,000	0.5	-		-		2,500		-
14. ADO			-		-		300,000	5.1	347,489
15. Other taxes	5,550	1.4	2,730	1.0	8,000	2.4	100	0.0	2,640
Total taxes	251,070	56.7	71,478	24.4	96,125	28.8	2,228,600	38.2	3,290,019
III. Charges and License Fees	57,511	13.0	28,594	9.5	41,112	12.3	42,650	0.7	201,815
IV. Income from Repayment of Loans	-		42,576	14.5	-		-		-
V. Revenue from Government-owned Enterprises	-		-		69,230	20.7	10,000	0.2	30,500
VI. Special Revenues (Lottery/Casino)	-		-		-		1,500,000	25.7	2,261,804
VII. Other Revenues	49,584	11.2	62,227	21.2	9,000	2.7	1,000	0.0	739,852
TOTAL	442,533	100.0	292,936	100.00	334,199	100.0	5,826,250	100.0	8,512,689

Source: Smith op. cit. p. 25

charges for rubbish collection, are collected in part by agents who go door to door. This system has obvious disadvantages. Many private tax payers pay nothing at all, and most pay very little. A correlative disadvantage is that the actual impact of the real estate tax falls disproportionately upon business enterprise. 1/

18. It is strongly recommended that competent property tax and assessment consultants be asked to recommend ways and means of improving the assessment, collection and accounting of property taxes in major Indonesian cities, beginning, perhaps, with the capital city of Djakarta.

1/ According to Smith, op. cit., pp. 39 and 40: "(In Djakarta) Houses are not taxed. The maximum assessed value of land according to present regulations is Rp 600 (\$1.60) per square meter while in fact some land in the city is selling for Rp 60,000 (\$160.00) per square meter. Three specific examples reflect the fact that property taxes as a percentage of real market value are very low. The annual property tax on a house and land valued at \$28,000 in Djakarta's nicest residential section is \$7.25 (.026 percent). Another piece of residential property assessed at \$135,000 is subject to an annual property tax of \$15.20 (.011 percent). The Hotel Indonesia, with a market value of about \$5 million, paid a property tax of \$4,650 (.093 percent) in 1969. In a city of more than 5 million people there are only about 140,000 individuals and businesses upon whom property taxes were levied in 1969, and only a very small percentage of these actually remitted payment. The following breakdown shows this (source: City Inspection on Land Tax):

<u>Type of Property</u>	<u>No. of Tax Obligations</u>	<u>% of Levies Collected</u>
Rural	74,804	9.53
Residential	22,748	25.54
Commercial	41,816	47.05

The 313 full-time and 978 part-time employees involved in property tax administration raised only \$535,793 for the city in 1969, while the 297 officials of the Djakarta Tax Service raised \$7,194,908--13 times as much. Moreover, our calculations indicate that the cost of collecting IREDA is about 35 percent of gross receipts. No penalties are currently being applied to delinquent taxpayers. Though commercial and industrial buildings are subject to tax, the IREDA Office has no system for monitoring new construction. The Department of Public Works issues building permits, but the IREDA Office has not yet requested copies of these permits".

The Administration

19. The city of Djakarta is the seat of the national government. It is also a special province or Daerah presided over by a Governor, appointed by the President of Indonesia.
20. The legislative body of Djakarta, the "Gotong Rojong" or Regional House of Representatives, is composed of 37 members chosen so as to represent various political, religious and occupational groupings in Djakarta. Like its counterpart at the national level, the Regional House of Representatives passes basic laws which are supplemented from time to time by the proclamations of the governor.
21. There are no major rural sub-regions (Kabupaten) in Djakarta, though agricultural output comprises about 10 percent of the total output of the province (more than industry). There are five municipalities in Djakarta each with its mayor (Wali Kota). Thus, Djakarta may be thought of as a metropolitan complex as well as a capital city.
22. The municipalities are further subdivided into administrative districts and subdistricts comprised of about 200,000 and 10,000 inhabitants respectively. The officer of each district is a Tjamat who, among other things, may arrange for the transfer of land title. There are 50 Tjamat in Djakarta. The officer of a subdistrict or Kelurahan is the Lurah, an important leader responsible, among other things, for issuing citizenship cards to the inhabitants of his subdistrict. These cards indicate the name, address, religion and occupation of the bearer, an important source of information about migration and other characteristics of the people as well as a device since August 5, 1970 for preventing non-residents from living in Djakarta permanently. (See below). There are at present 229 Lurah in Djakarta appointed by the Governor. For every 20 families there is also a neighbors' representative (Rukun Tetangga or RT) and for every 20 such neighborhoods there is a families' community representative (Rukun Wazga or RW). The RT and the RW report to the Lurah, so to speak, thus guaranteeing a flow of information and authority upwards and downwards in the total administrative system.
23. There are a number of provincial agencies having no duplicating or counterpart agencies in the national government, e.g., the fire brigade or department and the land registration office. There are a number of other agencies which are essentially Djakarta branches of the relevant national government agencies, e.g. department of public works and the bureau for statistics and census. Increasingly these agencies report primarily to the Governor of Djakarta, though it is said that a cooperative arrangement exists between the Governor and the relevant national Directorate General. The system would be more rational, the redundant government employees would be easier to identify, if a single line of authority were specified by law.

24. It would appear that the Governor derives a substantial amount of his power from his personal rather than his legal authority. His control over the administration of Djakarta cannot be taken as illustrative of the authority possessed by the provincial, let alone the municipal heads of other cities. Indeed, in the long run, the jurisdiction of municipal authorities needs to be clarified and enlarged if cities are to develop and prosper.

25. For example, the government of Djakarta lacks the authority under the law to condemn private property (hak milik) for public use by compensating the owners at fair market value (the right of eminent domain). Only the President of Indonesia can authorize the acquisition of property for the public welfare with fair compensation determined by an appointed board. The governor and his staff have been successful in inducing property owners to donate frontage land to the city for street widening purposes. The government may also purchase land for resale to industrial or large commercial enterprises. Occasionally, it is reported, the government will offer for sale land which it has not yet bought, presumably intending to buy the land at a "negotiated" price if the sale is made.

26. The government may suggest certain modifications of or additions to an intended building which modifications may be of use to the general public. Such procedures appear to have resulted in public betterment. At the same time, the notion that an investor must bargain with the government before he can do business may discourage some. It would probably be better if dependable land-use zones and building codes were published (see below) and if the city government were empowered under national law to purchase private land for public use at a fair price to be determined by independent appraisers appointed by, and subject to the review of the courts. In the event that the redevelopment of a built-up area were ever attempted, this legal authority would be imperative.

Revenue

27. A measure of the success of the present government of Djakarta is that annual budgets more or less doubled in real terms from 1967 through 1969 and increased again by 50 percent in 1970.

28. The sources of revenue of Djakarta are shown in Table 7 and the expenditures in Table 8. The government has succeeded in increasing its revenue in recent years by bargaining successfully with the national government for a larger subsidy, by authorizing a government lottery and by legalising and imposing a tax on gambling. In 1969-70 25 percent of the total revenues accruing to Djakarta resulted from the lottery and gambling tax. It was shrewd for the government to have devised a gambling tax in the first instance, for many of the gamblers are foreigners, some of whom fly to Djakarta from Singapore for overnight entertainment. It has been politically astute for the government to maintain the enterprise in the face of opposition by some religious leaders. Similar operations in Makassar and Medan were obliged to discontinue; the casino in Palembang was burned to the ground and the homes of the employees were ransacked.

Table 7: Recapitulation of planned and realised revenue budget of the Government of D.C.I. Djakarta in the first, second and third quarters of the 1969 - 1970 service year

No.	Revenues	Planned (Rp.) (millions)	Actuals (Rp.) (millions)	Planned (%)	Realized (%)
	<u>I. Surplus from last year</u>	-	90.8	-	1.31
	<u>II. Revenues from the government</u>				
1.	Transfer from Central Government	1,260.0	1,317.0	29.30	18.94
2.	Subsidy	-	-	-	-
3.	Others	-	32.6	-	0.47
		<u>1,260.0</u>	<u>1,350.7</u>	<u>29.30</u>	<u>19.41</u>
	<u>III. Regional Taxes</u>				
1.	Motor Vehicle Tax	375.0	498.8	8.72	7.18
2.	Development Tax I	75.0	92.7	1.74	1.34
3.	Real Estate Tax	300.0	130.1	7.00	1.87
4.	Entertainment Tax	150.0	293.6	3.48	4.21
5.	Property Transfer Tax	525.0	897.2	12.20	12.91
6.	Other Taxes	21.5	14.5	0.50	0.21
		<u>1,446.5</u>	<u>1,926.1</u>	<u>33.64</u>	<u>27.72</u>
	<u>IIIA. Regional Retribution</u>				
1.	Tax on Oil	48.0	79.3	1.12	1.15
2.	Foreigner's Tax	8.3	10.9	0.19	0.15
3.	Surcharge Gasolin	225.0	160.7	5.23	2.30
4.	Industrial Service	7.5	4.7	0.17	0.06
5.	Public Works	7.5	94.1	0.17	1.36
6.	Husbandry	0.4	5.7	0.01	0.07
7.	Funeral Service	0.8	2.8	0.02	0.03
8.	City Health Service	1.5	0.1	0.03	0.02
9.	Population Affairs	6.0	11.2	0.13	0.03
10.	Automatic Foreign Exchange Allocation (ADO)	150.0	239.3	3.48	3.45
11.	Other Retributions	0.1	6.9	0.00	0.09
		<u>454.9</u>	<u>611.3</u>	<u>10.55</u>	<u>8.71</u>
	<u>IV. Property Lease</u>				
1.	House/Land Lease	0.09	0.3	0.00	0.01
2.	Forestry Service	0.3	1.5	0.01	0.03
3.	Charges on Sea Fishery	5.3	3.6	0.12	0.06
4.	Charges on Land Fishery	-	0.1	-	0.01
5.	Agricultural Service	-	-	-	-
6.	Housing Service	-	-	-	-
7.	Other Property Lease	-	-	-	-
		<u>5.6</u>	<u>5.6</u>	<u>0.13</u>	<u>0.11</u>
	<u>V. Regional Enterprise</u>				
	Revenue of Government owned Enterprises	7.5	30.5	0.17	0.44
	<u>VI. Specific Revenues</u>				
1.	Lottery	300.0	610.3	7.00	8.78
2.	Casino	825.0	1,115.0	19.19	16.04
3.	Other Specific Revenues	-	-	-	-
		<u>1,125.0</u>	<u>1,725.3</u>	<u>26.36</u>	<u>25.26</u>
	<u>VII. Other Revenues</u>				
1.	Other Types of Revenues (from central govt.)	0.8	1,215.1	0.02	17.48
	TOTAL OF REVENUES	<u>4,300.3</u>	<u>6,954.4</u>	<u>100.00</u>	<u>100.00</u>

Source: Directorate VI/Finance of D.C.I. Djakarta
Description: +) = provisional figures.

Table 8: Recapitulation of the planned and realized expenditure budget of the Government of D.C.I. Djakarta in the first, second and third quarters of the 1969 - 1970 service year

No.	Expenditures	Planned (Rp.) (millions)	Realized (Rp.) (millions)	Planned (%)	Realized (%)
	<u>I. General Implementation</u>	199.0	236.2	3.68	4.37
	<u>II. Territorial Implementation</u>				
1.	Central Djakarta	153.9	181.5	2.85	3.36
2.	West Djakarta	166.4	130.8	3.08	2.42
3.	North Djakarta	139.1	92.7	2.57	1.72
4.	East Djakarta	155.6	111.0	2.88	2.05
5.	South Djakarta	151.4	152.5	2.80	2.82
		<u>766.4</u>	<u>668.6</u>	<u>14.18</u>	<u>12.37</u>
	<u>III. Services</u>				
1.	Public Work Services	169.5	101.7	3.14	1.88
2.	P and P Service	49.5	106.3	0.91	1.97
3.	City Health Service	70.3	71.1	1.30	1.32
4.	Social Service	13.8	14.9	0.25	0.27
5.	Sanitation Service	88.8	78.9	1.64	1.46
6.	B.P.K. Service	41.0	39.8	0.76	0.74
7.	L.L.D. Service	11.9	13.9	0.22	0.26
8.	Funeral Service	22.5	21.6	0.42	0.44
9.	Husbandry Service	8.8	6.5	0.16	0.12
10.	Agricultural Service	10.0	6.4	0.18	0.12
11.	Forestry Service	6.4	3.5	0.12	0.06
12.	Land Fishery Service	4.7	3.5	0.09	0.06
13.	Sea Fishery Service	5.9	5.0	0.11	0.09
14.	Industrial Service	10.0	7.0	0.68	0.70
15.	Tax and Revenue Service	36.8	37.8	0.68	0.70
16.	Housing Service	5.8	7.4	0.11	0.14
17.	Finance Inspectorate	10.2	10.4	0.19	0.19
18.	Agrarian Inspection	8.6	4.0	0.16	0.07
19.	Cooperative Directorate	3.9	1.4	0.07	0.03
20.	Cultural Service	5.9	6.2	0.11	0.12
21.	Museum/History Service	21.6	17.0	0.40	0.31
		<u>605.8</u>	<u>566.2</u>	<u>11.20</u>	<u>10.48</u>
	<u>IV. Personnel Welfare</u>	843.3	1,029.5	15.61	19.05
	<u>V. Other Activities</u>	117.4	145.2	2.17	2.69
	<u>VI. Other expenditures</u>	18.2	230.3	0.34	4.26
	<u>TOTAL ROUTINE:</u>	<u>2,550.0</u>	<u>2,876.1</u>	<u>18.12</u>	<u>26.00</u>
	<u>VII. Development</u>				
1.	Government Administration	174.0	183.1	3.22	3.39
2.	Public Security	30.0	12.7	0.56	0.24
3.	Public Welfare	716.3	621.0	13.26	11.49
4.	Territorial Development	1,558.5	1,339.3	28.84	24.78
5.	Economy	-	19.8	-	0.37
6.	Kampung Improvement	375.0	352.0	6.94	6.51
	<u>TOTAL OF DEVELOPMENT</u>	<u>2,853.8</u>	<u>2,527.8</u>	<u>52.82</u>	<u>46.78</u>
	<u>TOTAL OF EXPENDITURES</u>	<u>5,403.8</u>	<u>5,403.7</u>	<u>100.00</u>	<u>100.00</u>

Source: Directorate VI/Finance D.C.I. Djakarta

29. Some question may be raised about the property transfer tax, a sliding scale rate of 3 percent to 10 percent of the purchase price of the property. While this produces much revenue, nearly 13 percent of the total in 1969-70, it may impede new investment.

30. It would appear that the revenue from some of the regional charges and the property leases could be increased if better collection methods could be employed, but this issue deserves further study.

31. As indicated above, the most promising approach to additional revenue from existing sources would seem to be a substantial improvement in the assessment of property and the collection and accounting of property taxes. It may also be possible to convince the central government to share more of its sales and income tax revenue or to permit cities to impose surtaxes on more of the items on which the central government already has imposed a sales tax.

The Development Budget

32. Table 8 indicates that roughly half of the total budget of Djakarta is earmarked for development, though information on specific project expenditures is not available. Five year (1969-1974) targets have been set for hospitals and clinics, schools, roads, water, power, flood control, public transportation, traffic control and waste disposal. Some of these, e.g. power, are within the jurisdiction of the central government, and some, e.g. flood control, are being considered as possible projects by assisting foreign governments and will be discussed below. Some, e.g. waste disposal, are not yet being programmed for action. But some are within the jurisdiction of the city government and are probably being met on schedule.

33. Education - Over 30 percent of the total city budget in 1967 and 1968 was spent on education. In 1969, the expenditure by the city was reduced to 12 percent of its budget but was supplemented by a subsidy from the central government, nominally responsible for secondary education throughout Indonesia. The improvement in primary education is shown in Table 9. Nevertheless only about 50 percent of the children in Djakarta eligible by age to receive primary education actually attend school.

34. Transportation - The major emphasis of the development program to date has been on road maintenance and improvement. The length of existing roads rose from 882 kilometers in 1967 to 993 in 1969. The by-pass road to the harbor, financed a decade or more ago by AID and the road to Kebajoran are the major new roads built before 1967 but other roads have been added or widened since then. It is estimated that the length of paved roads in Djakarta still must be doubled to handle present requirements, however, and the motor vehicle population of Djakarta is growing as fast as roads are being constructed or widened. Some indication of traffic densities along major thoroughfares is given in Table 10, though this cannot begin to describe the

Table 9: Number of Students, Teachers, Schools and Primary School Buildings in Djakarta, 1968-69

<u>Year</u>	<u>Pupils</u>	<u>Teachers</u>	<u>Schools</u>	<u>School Buildings</u>
1963	304,248	5,789	814	546
1964	334,382	7,324	890	561
1965	334,661	7,430	913	583
1966	372,631	7,687	1,021	644
1967	385,017	8,539	1,108	754
1968	270,837	10,186	1,207	823
1969	473,676	11,439	1,332	934

Source: Representative Office of the Department of Education and Culture of DCI Djakarta.

Table 10: Number of motor vehicles passing certain roads on the same days and certain time in DCI Jakarta in 1969 (Main Route from 6.00 a.m. - 21.00 p.m., connecting route from 6.00 a.m. - 18.00 p.m.)

No.	Roads for Main Routes	Day					Total
		Monday	Tuesday Wednesday Thursday	Friday	Saturday	Sunday	
1	<u>Gajah Mada/Kota</u> Kota	36.5	35.6	34.7	35.6	24.3	166.7
2	<u>Hajam Wuruk</u> Harmoni	39.3	38.9	36.9	35.9	28.4	179.4
3	<u>Merdeka Barat</u> Kota	23.5	23.1	22.2	23.9	14.3	107.0
	Kebajoran	20.3	19.9	19.1	19.6	12.5	91.4
4	<u>Thamrin</u> Kota	31.9	31.4	31.0	29.3	21.4	145.0
	Kebajoran	34.2	35.2	33.3	34.3	19.5	156.5
5	<u>Ljend. Sudirman</u> Kota	37.2	38.4	35.8	38.1	26.3	175.8
	Kebajoran	42.1	41.9	38.9	39.4	26.3	107.6
6	<u>Otto Iskandardinata</u> Banteng	7.9	8.3	8.5	8.4	7.5	40.6
	Tjawang	9.9	10.1	9.6	10.0	8.9	48.5
7	<u>Matraman Raya</u> Banteng	24.7	21.6	20.3	25.1	16.7	108.4
	Tjawang	20.6	20.9	20.9	21.2	16.5	100.1
8	<u>Kramat Raya</u> Bangeng	27.7	26.9	26.3	26.9	19.8	127.6
	Tjawang	26.3	23.4	23.3	24.5	19.5	117.0
9	<u>Gunung Sahari</u> Senen	15.6	15.7	14.9	14.8	11.9	73.0
	Antjol	13.3	10.4	11.4	10.9	9.2	55.2

No.	Roads for connecting routes	Day					Total
		Monday	Tuesday Wednesday Thursday	Friday	Saturday	Sunday	
1	<u>Diponegoro (G.Wanita)</u> Salemba	-	11.6	-	-	-	11.6
	Kebajoran	-	12.7	-	-	-	12.6
2	<u>Diponegoro (Pipia)</u> Salemba	-	12.2	-	-	-	12.2
	Kebajoran	-	9.5	-	-	-	9.5
3	<u>Benteng Raya</u> Banteng	-	30.7	-	-	-	30.7
	Tjikini	-	30.6	-	-	-	30.6
4	<u>Merdeka Timur</u> Air Mantjur	-	9.3	-	-	-	9.3
	Kwitang	-	14.6	-	-	-	14.6
5	<u>Sawan Besar</u> Hajam Wuruk	-	8.5	-	-	-	8.5
	Pintu Besi	-	14.3	-	-	-	14.3
6	<u>Pintu Besi</u> Sawah Besar	-	6.7	-	-	-	6.7
	Gunung Sahari	-	11.6	-	-	-	11.6
7	<u>Ir. Djuanda</u>	-	40.9	-	-	-	40.9
8	<u>Veteran</u>	-	15.9	-	-	-	15.9
9	<u>Framuka</u> By-pass	-	6.9	-	-	-	6.9
	Matraman	-	6.9	-	-	-	6.9
10	<u>Let. Djen Suprpto</u> By-pass	-	7.6	-	-	-	7.6
	Senen	-	8.6	-	-	-	8.6

Source: Traffic Survey. See Also Figure 2

unregulated maneuvering, weaving, stopping, turning chaos of cars represented by the numbers. Lesser streets, surrounded by merchants displaying their wares, in carts and on sidewalks and dirt banks, are choked with horsecars, betjaks (bicycle taxis), pedestrians and men carrying pots or other materials at both ends of poles balanced like scales on their shoulders. An official city publication affirms that it may take automobile traffic an hour or more to transverse a distance which should require 15 minutes.

35. In addition to widening major roads, the city has introduced private firms to construct pedestrian overpasses across highways in return for the exclusive right to advertise their wares on the overpasses for five years. Private firms with similar inducements have also constructed some 330 rain shelters for passengers awaiting buses.

36. Street maintenance and widening is only part of the more general transportation problem in Djakarta. A private bus company under license from the city and with an AID loan guaranteed by the city of Djakarta has added 500 buses to the 1,000 in operation in 1968, and another 500 are due in 1971. It is estimated, however, that a total of 3,500 are needed. An improvement in the public transportation system is needed for reasons of efficiency (most government agencies send small buses around to pick up their employees as do most foreign firms and embassies) and to reduce the dependence of many on betjaks, the ubiquitous bicycle taxis which swarm the streets of Djakarta, providing employment for the drivers but creating traffic problems and raising the costs of intra-city travel.

37. Betjak transport costs several times more per passenger kilometer than does bus transport. (Bus fares recently raised from 10 to 15 rupiahs are fixed at rates which require almost constant use and full loads for the bus company to break even). Betjaks are slower and more dangerous than buses, and they create substantial traffic problems. The Governor of Djakarta has proclaimed that no new betjaks may be built, and all betjaks must be licensed. Estimates of the number of betjaks run as high as 200,000, though less than 100,000 have been licensed to date. Doubtless, they could be phased out faster if alternative employment were readily available for the 200,000 to 400,000 drivers each of whom probably earns US\$100-150 a year.

38. Another transportation problem is the shortage of taxis. It is estimated by city officials that there are only 200 taxis in Djakarta as compared with 5,000 in Bangkok. The taxi shortage requires company executives and government officials who attend many conferences (partly because of the shortage of telephones) to have automobiles and drivers, and this adds to traffic and parking problems, now becoming acute, and to the cost of business and government operations. Under the circumstances, it is probably reasonable for the city of Djakarta to place its major emphasis on roads and traffic control for the automobile may choke this city as it has so many others.

39. Djakarta is served by a rail system linking Djakarta with other cities and intra-city transit between the central station and the harbor via a sort of circle route. There has been some consideration of discontinuing the intra-city line partly because of the grade crossing problem. Trains sometimes interrupt vehicular traffic for long periods. Given the problems of traffic already evident in Djakarta and the experiences of some cities which have abandoned some rail lines in favor of the automobile to their subsequent regret, it would appear advisable for the city and central governments to move toward a total improvement of transportation in Djakarta which will integrate all the relevant forms of urban transport.

40. It is none too soon, moreover to begin asking serious questions about air pollution. The absence of strong breezes and the ubiquitous cover of low hanging clouds during much of the year appear to create conditions favorable to classic automobile air-pollution problems in the not distant future. Already the mountains to the south, visible after a hard rain has extinguished for some hours the thousands of open household fires, are enshrouded now almost permanently in the smoke of crowded human habitation.

41. Traffic surveys by the City of Djakarta are conducted frequently. During 1971, moreover, a team of German consultants, financed by the German Government, will be in Djakarta to prepare recommendations for improvements which will consider the various modes of transport. The terms of reference for this mission are being prepared by the Germans and city administrators at the present time.

42. The rather horrendous problems of traffic are symptomatic of the more general problems confronting Djakarta: a population growing as fast as, or faster than the infrastructure. There is a shortage not only of roads but of houses, and schools, and parks, and power and water and telephones and, most unhappily, productive employment. Thus, on August 5, 1970, a decree went forth stating, in part:

Governor Head of DCI Djakarta, Considering that urbanization to Djakarta city has reached a level which may endanger the safety of the living of Djakarta community, so that it is regarded necessary to take an effort, for the sake of safeguarding development policy and program of the capital which has been outlined so that they remain under direction and may score the targets, by declaring Djakarta as a closed city. 1/

43. By "urbanization" the Governor meant the migration into Djakarta from other regions. By "closed city" he meant that the Lurah of Djakarta should no longer issue Resident Identification Cards to newcomers not having employment and a place to live. Presumably those without cards will be deported, though there have been no reports of deportations thus far.

1/ Decree of Governor Head of DCI Djakarta. No. IB. 3/1/27/1970, translated by Commercial Advisory Foundation of Indonesia.

The People

44. Djakarta lacks a dependable supply of electricity, gas and potable water, a waste disposal system, smoothly flowing traffic, rational land use, and adequate public schools and health facilities. Yet, for nearly 5 million people it is The City--alive, dynamic, modern, beautiful--a land of freedom and opportunity. It has a variety of sights and sounds and smells, of goods and shops and people unlike those to be found in the countryside. Djakarta is the capital city, a magnet for the bold and the curious who come to see and, frequently, to stay.

45. The population in 1930 of the city called Batavia by the Dutch, was 533,000. Apparently it was little more than that at the end of the Second World War. Since 1947, as shown in Figure 1, particularly during the decade of the 1960's, the population growth of Djakarta has been explosive. At the growth rate applicable when the Governor declared Djakarta a closed city, the population would double again in another decade. It is, of course, too early to tell what effect the Governor's proclamation will have on migration to Djakarta. It is not designed to keep out those who can quickly find employment, and it will be difficult to enforce in any event. What is clear is that Djakarta even more than the rest of Java is being inundated by people.

46. It is estimated, as shown in Figure 2, that the birth-rate in Djakarta rose steadily from 1962 through 1968. With the death-rate remaining more or less constant, the natural rate of population increase has risen from approximately 2 percent before 1960 to nearly 3 percent per year. As yet, family planning efforts, begun in 1967, have had little overall impact, though this only implies that efforts must be increased.

47. One consequence of this high rate of natural population increase is that over half the population of Djakarta is under 20 years of age with all that implies for schools, for the tax burden on the fully employed, and for continuing population increase for many years even if each family unit should no more than reproduce itself.

48. Nevertheless, less than half of the population growth of Djakarta since 1947 may be attributed to natural growth. Migration from rural areas and lesser towns has occurred more or less continuously with great waves of migrants coming in 1948 and 1949 as the fight for independence ceased and in 1959 as the countryside became unsafe while the national forces of Indonesia crushed the rebellion of the outer islands. Since 1961 migration to Djakarta has exceeded 100,000 persons per year.

49. The reasons for this migration are complex and deserve detailed, scientific investigation. Economic factors would appear to be important, though they are difficult to isolate or quantify. The best available data suggest that per capita income in Djakarta is 25 percent to 50 percent higher than for the country as a whole (see Table 11), but this tells us nothing about the income available to unskilled migrants. Average income figures are raised by the high incomes, including the non-monetary incomes, of the

POPULATION IN DJAKARTA

1941 - 1969

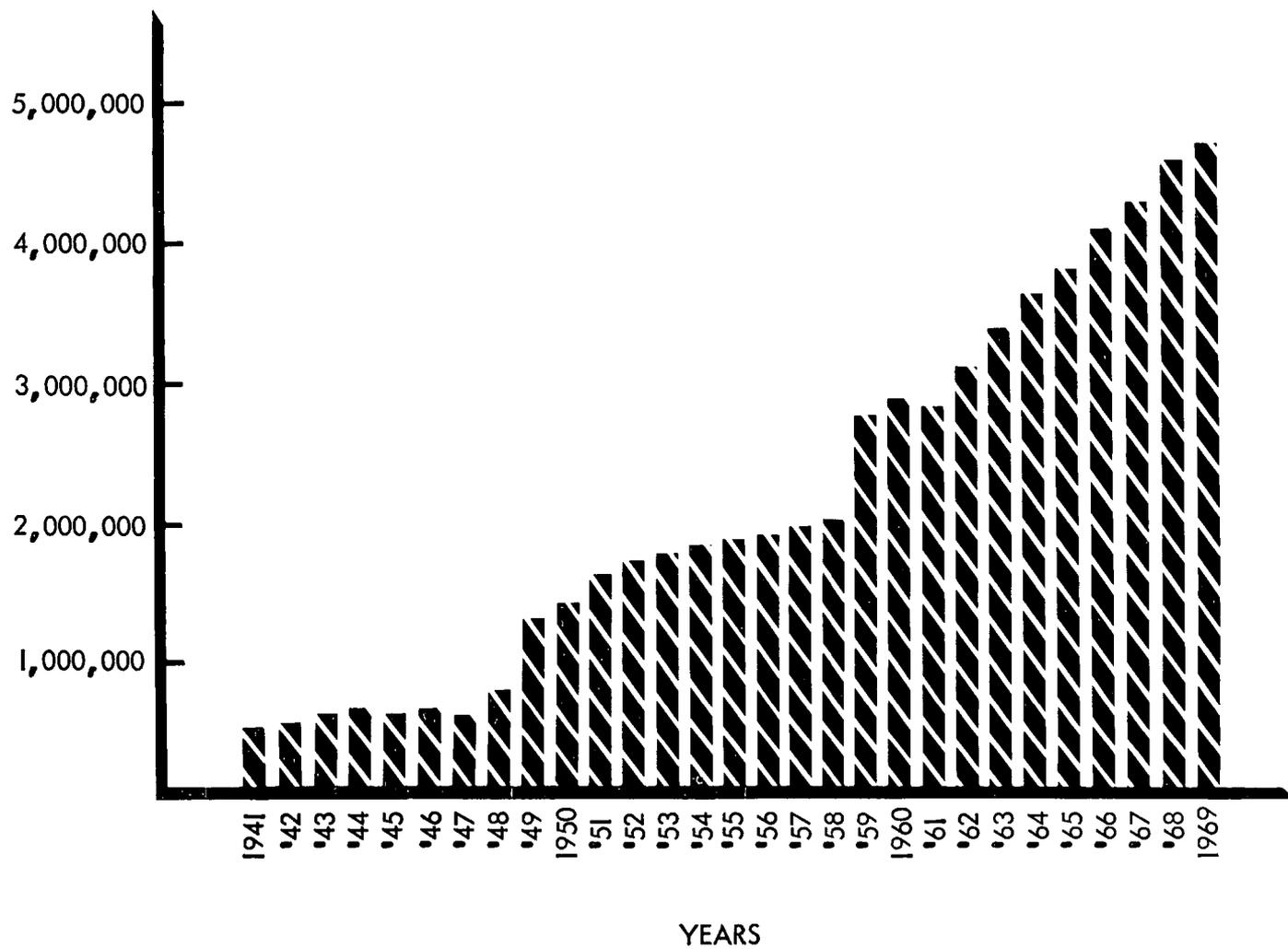
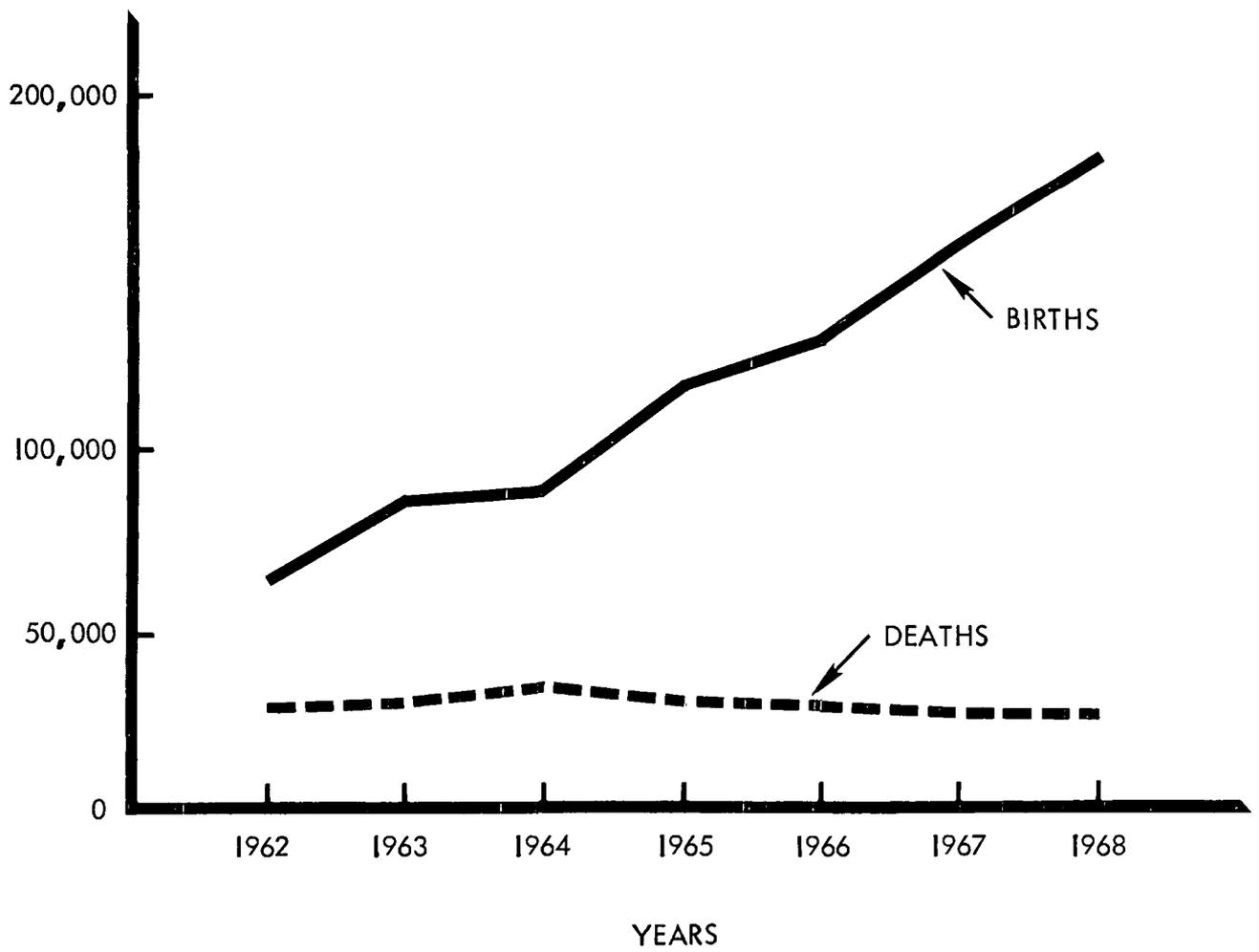


Figure 2

BIRTHS AND DEATHS IN DJAKARTA



well-to-do. Official statistics indicate that over 80,000 persons or 6.1 percent of the active labor force of Djakarta is unemployed or temporarily (under) employed, but this is probably low. There are no measurements of the contribution to real output of the thousands of redundant employees in the hotels, the airport, the small shops and the government offices, but the money value of the marginal product of the lower income employees in a large organization must be lower than their wages. Squalid living conditions in the slums of Djakarta can hardly be better in a measurable economic sense than those from whence the migrants came, though many new arrivals live with their relatives to the economic disadvantage of the latter and their incentives to produce.

50. Immediately after World War II, people were drawn to Djakarta because relief shipments were delivered there. From 1948 through 1952, after fighting for independence ceased, people were probably drawn by the excitement of, and expectations generated by independence. In 1959, they were drawn by the desire for security, in the early 1960's by the monument building (and government employment) program of Sukarno, and since 1967 by the news of a new and better government. None of these events implies anything about the marginal productivity of the Djakarta labor force relative to the rest of Indonesia.

51. A psychologist at the University of Indonesia ascribes the migration primarily to a desire for freedom from the restraints of traditional rural society regardless of economic conditions, though he agrees that scientific evidence for this judgment is lacking. A house-to-house survey of over 11,000 households was conducted in Djakarta in 1954 under the auspices of the Institute for Economic and Social Research of the University of Indonesia. At that time, improved economic circumstances for most seemed to be indicated, and a desire for improved educational opportunity was a motivating force. ^{1/} It would be extremely helpful in a similar investigation, done this time with more assistance from psychologists and anthropologists, could be carried out today. It is difficult to evaluate economic policy for Djakarta or West Java or Indonesia if the absence of reliable information on the marginal productivity of the labor force of Djakarta, on the distribution of income by categories of occupation and on the reasons for migration throughout Indonesia.

52. Some information on employment and income is given in Tables 12 and 13. Employment, wage and size of establishment statistics for more detailed subdivisions of economic activity over time are needed for thorough analysis, though Table 13 displays one striking fact about Djakarta: over 50 percent of the gross domestic product is derived from wholesale and retail trade and less than 10 percent from industry. In a high per capita income metropolitan area, the former would be significantly lower and the latter would be higher.

^{1/} See "The Urbanization of Djakarta," reprinted from Ekonomi Dan Kerangan Indonesia, Vol. VII, No. 11, November 1955. This investigation established that 75 percent of the residents interviewed had been born outside of Djakarta primarily in rural west Java, and that a third had moved to Djakarta from 1949-1953.

Table 11: Gross Domestic Product, Djakarta, 1966-1968

	<u>1966</u>	<u>1967</u>	<u>1968</u>
Gross Domestic Product, in millions of rupiahs, current prices	29,205.2	75,657.4	174,903.1
Gross Domestic Product, in millions of rupiahs, constant (1966) prices	29,205.2	30,395.0	32,026.5
Gross Domestic Product, per capita, rupiahs, current prices	7,083.8	17,433.7	38,861.5
Gross Domestic Product, per capita, rupiahs, constant (1966) prices	7,083.8	7,003.9	7,115.9

Source: Census and Statistics Office, DCI Djakarta

TABLE 12

Estimated labor force, Djakarta Raya, 1969

Older than 10 years. 66,51 % x 4.750.945		=	<u>3.159.850 pers.</u>
I. Active labor force	42,8 %	=	<u>1.352.415 pers.</u>
a. Employed	40,2 %	=	1.270.259 pers.
b. Temporary Employed	1,2 %	=	37.918 pers.
c. Un employed	1,4 %	=	44.238 pers.
II. Passive labor force	57,2 %	=	<u>1.807.435 pers.</u>
a. Pensioned	1,7 %	=	53.726 pers.
b. House hold activitie activities	30,3 %	=	957.434 pers.
c. Students	20,6 %	=	650.928 pers.
d. Disable	4,6 %	=	145.347 pers.

Source: Djakarta Statistical Office

Table 13: Percentage Distribution of the Gross Domestic Product, Djakarta
by Category of Economic Activity, 1966-1968

<u>Activity</u>	<u>1966</u>	<u>1967</u>	<u>1968</u>
Agriculture, Forestry, Fishing	10.68	9.89	8.32
Mining and Quarrying	-	-	-
Manufacturing Industry	8.12	8.68	8.71
Construction	4.61	5.12	5.25
Public Utilities	0.13	1.14	1.25
Transport and Communications	7.27	9.34	12.35
Wholesale and Retail Trade	52.20	49.26	46.64
Banking and Finance	4.51	3.62	4.14
Housing	4.75	5.24	5.37
Government	6.67	6.85	7.13
Other	1.06	0.86	0.84
Total	100.00	100.00	100.00

Source: Census and Statistics Office, DCI Djakarta

Table 14: Distribution and Percentage of Economic Household Specified According to Status of Residence and Nature of its Construction in 1969

<u>Building Construction</u>	<u>Housing Status</u>					<u>Total</u>
	<u>Own</u>	<u>Rent Exempt</u>	<u>Contract</u>	<u>Rent and Bought</u>	<u>Rent</u>	
Permanent	85,271 9.16	56,447 6.06	7,206 0.77	1,201 0.13	38,432 4.12	188,557 20.24
Semi-permanent	105,688 11.34	37,231 3.99	16,814 1.80	- 0.00	49,241 5.29	208,974 22.42
Temporary	225,788 24.22	93,678 10.05	44,437 4.77	- 0.00	170,542 18.30	534,445 57.34
Total	416,747 44.72	187,356 20.10	68,457 7.34	1,201 0.13	258,215 27.71	931,976 100.00

Source: Census and Statistics Office of DCI Djakarta.

Table 15: Distribution and Percentage of economic household specified according to facilities on electricity, water supply and economic groups in 1969.

<u>Income</u>	<u>Electricity and Water Supply</u>	<u>Electricity only</u>	<u>Water Supply only</u>	<u>Non electricity and Non water supply</u>	<u>Total</u>
2,000 and less	-	1,201	-	12,810	13,211
2,001-2,500	-	0.13	-	1.29	1.42
	-	1,201	-	20,417	21,618
2,501-3,500	6,005	1,201	-	61,251	68,457
	0.64	0.13	-	6.57	7.34
3,501-5,000	4,804	13,211	6,005	154,929	178,949
	0.52	1.42	0.64	16.62	19.20
5,001-7,500	15,613	8,407	3,603	225,788	253,411
	1.68	0.90	0.39	24.23	27.20
7,501-10,000	7,206	15,613	6,005	100,884	129,708
	0.77	1.67	0.64	10.82	13.90
10,001-15,000	18,015	24,020	4,804	81,668	128,507
	1.93	2.58	0.52	0.76	13.79
15,001-20,000	3,603	13,211	2,402	22,819	42,035
	0.39	1.42	0.26	2.45	4.52
20,000-25,000	10,809	13,211	1,201	14,412	39,633
	1.16	1.42	0.13	1.55	4.26
25,001 and more	8,407	33,628	2,402	12,010	56,447
	0.90	3.60	0.26	1.29	6.05
Total	74,462	124,904	26,422	706,188	931,976
	7.99	13.40	2.84	75.77	100.00

Source: Census and Statistics Office, DCI Djakarta

53. It is similarly difficult, in the absence of better data, to describe in detail the living conditions of the people of Djakarta. Given the present rate of population increase, it may be supposed that 40,000 or so new households are added in Djakarta each year, but only 2,000 to 3,000 new permanent housing units are approved annually by the Djakarta Department of Public Works. (Temporary housing, which includes housing not using government-supplied power, does not require a permit.) As shown in Table 14, only 20 percent of the housing units in Djakarta are permanent. As shown in Table 15, only 8 percent of the housing units use both electricity and city water. It is estimated that the cost-of construction of new, permanent housing in Djakarta is between Rp 15,000 and Rp 30,000 a square meter (roughly US\$4 and US\$8 a square foot). This would place the minimum cost of a 50 square meter (500 square foot) house at Rp 750,000 or almost US\$2,000, or something like 25 times the per capita income in Indonesia (perhaps 17 times the per capita income in Djakarta) and these rough calculations leave the cost of land entirely out of account.

54. A few 200 sq. meter houses built by the city of Djakarta on government land near the by-pass road are offered for sale to Indonesians for Rp 7 million. Assuming the houses occupy less than 50 percent of the lot, this would impute a value to the land of something like US\$5/sq. meter and is consistent with independent information on land prices in that area. In any event, it appears clear that well less than half the population of Djakarta -- perhaps 20 percent -- can afford permanent non-subsidized housing, and no low cost housing program is being contemplated by any level of government. In the short run, moreover, housing is made to seem more scarce than otherwise by the influx into Djakarta of foreigners able to pay whatever price is necessary for better houses and flats. The annual price (rent) they pay (in advance) is something like one-third of the total construction cost of the house. This seems high to some, but it may not be excessive in an economy where the real cost of capital in the free market is properly very high.

55. There is no sewer system in Djakarta, though some housing units and plants have septic tanks or cesspools. Some parts of Djakarta are served by a city refuse collection service, though in most of Djakarta, garbage and other refuse are burned or dumped into the canals. The water sold by the city is polluted and flows through the corroded distribution system with virtually no pressure. Well water is used by some, though it is also polluted. The water table is near ground level, and well water except from very deep wells is contaminated by the cesspools.

56. The number of hospitals, beds, maternity wards, clinics and medical institutions has generally kept pace with the population since 1954. The ratio of people to hospital beds is over 1,200 to 1, however, and there are over 20,000 people per doctor. Fortunately, there have been no major epidemics in Djakarta, though there is constant concern about such water-borne diseases as cholera and dysentery.

Table 16

<u>Year</u>	<u>Hospitals</u>	<u>Beds</u>	<u>Maternity Houses</u>	<u>Beds</u>	<u>Clinics</u>	<u>Medical Institutes</u>
1964	25	4,913	48	1,260	108	405
1965	22	4,226	64	1,311	106	430
1966	22	4,226	72	1,335	109	383
1967	36	5,153	77	1,712	119	406
1968	38	5,320	94	1,934	133	427
1969	38	5,571	111	2,102	153	483

Source: Census and Statistics Office, Djakarta

Djakarta - Infrastructure

57. The most important categories of urban infrastructure to be considered in Djakarta are flood control, water, waste disposal, power, public transport and telecommunications. It should be stressed, however, that none of these should be considered altogether in isolation. Alternative transportation systems are affected by the level of the water table and by the telephone, power and flood control systems. The flood control system is affected by the water, power and waste disposal systems. The water system is affected by the flood control, waste disposal, power and rural irrigation systems. All are affected by the housing system and by the land use pattern, and vice versa. The cost and proper location of an international airport affects and is affected by all of these. The sum of the benefits of many infrastructure projects properly coordinated will be greater than the sum of the benefits of the same projects, each considered in isolation.

58. This point may be illustrated with reference to the canals of Djakarta which were built during the Dutch colonial period to receive discharge from kitchens and washing facilities and to provide some flood control in the wet season and irrigation in the dry. Perfectly adequate for their intended purpose when the population of Djakarta was 500,000 and they were properly used and maintained, these canals have become choked with sediment. The canals are fed by rivers which produce sediment and carry debris, including garbage and excrement, from upstream. The rivers are polluted (the water is unsafe to drink) by the time they reach Djakarta, and the canals are more so as they receive refuse from the inhabitants of the city. Given the way in which they are used, the canals would be filthy even if they were maintained. As it is, although they are flushed somewhat by water from the river system, they have become so clogged that they never drain properly. In the dry season the smaller canals become smelly, quagmires; they are open sewers at their worst with all that implies for health (some of the street people drink from and bath in the canals) and for the psychological malaise of the people generally. The canals no longer serve the purpose of flood control adequately so that transportation in much of Djakarta virtually ceases and many houses are flooded when the rain descends for long in tropical torrents.

Table 17: Consumption Electric Power, Djakarta, 1959-1970
(In Kilowatt hours)

<u>Year</u>		<u>Year</u>	
1959	159.377.104	1965	310.192.699
1960	180.473.905	1966	347.596.596
1961	210.335.957	1967	370.927.286
1962	210.334.547	1968	403.581.010
1963	238.320.692	1969	415.640.393
1964	271.507.633	1970	435.969.647

Source: Perusahaan Listrik Negara
Exploitasi XII

59. The Government of the Netherlands has financed the preparation of a preliminary survey and recommendations concerning Djakarta flood control by a consultant team led by Professor Vlugter of the Netherlands. If requested to do so by the Government of Indonesia, the Netherlands Government is also prepared to grant the necessary funds (US\$1,000,000) for the purchase of the equipment needed for clearing and maintaining (dredging and flushing) the canals, returning them to a properly maintained condition. But the consultant team warns that this urgent program will be of very temporary value unless complimentary long-run measures are also taken. It is imperative that ways be found (barbed wire fences along the canals) to keep people from using the canals for refuse. The canal system must be substantially enlarged. Studies should be made of the sedimentation rates of the rivers flowing into the canals, and the canal system should be appropriately enlarged. In the longer run, drainage and flood control needs to be coordinated "with a long-run program for the drinking water supply of the city and the new and necessary sewerage systems for the septic disposal and conveyance of industrial and domestic waste water." ^{1/} But no estimate is made by the consultants for accomplishing all of the long-run program.

60. There have never been firm plans for a sewer system in Djakarta. When the population of Djakarta was a tenth of what is now is, the city government collected garbage and refuse from the permanent homes and establishments. The permanent homes and establishments were equipped with cesspools and septic tanks, and the Indonesian Kampongs seemed too small to worry much about. Today, however, waste disposal for a city of five million is a horrendous problem, one for which no-one has a planned solution. And if major chemical producers should become interested in production here, the waste disposal problem would be magnified.

61. City trucks still collect some rubbish, though this has become very much a hit-and-miss affair. The government does not attempt to prohibit individual rubbish burning nor does it require all residences to be served by city rubbish trucks. The city has given up trying to collect rubbish collection fees from residential establishments. But city rubbish collectors, underpaid, frequently insist upon a payment directly to them before they will service the payor. Apparently there are no private competing rubbish collection businesses, though the existence of such might prove beneficial. Alternatively, the city might insist that the employees collect rubbish from all establishments, pay its employees adequately, and add the cost to property tax rates. It might reduce the costs of collection somewhat by arranging for neighborhood collection points to which rubbish could be brought by a number of families.

^{1/} Netherlands consultants, Djakarta Flood Control Preliminary Survey and Recommendations, Djakarta, June 1970.

62. The question of a sewer system is more difficult. The city might insist upon the installation of adequate septic tanks for all permanent and semi-permanent buildings and provide public facilities with septic tanks in the temporary housing sections of Djakarta. This could hardly be an optimum solution. It would be worth investigating whether the canal ditches could be used for a permanent sewer pipe installation and what the cost would be. It is possible that the experience of Karachi, Pakistan, where a sewer system was installed at low cost using underemployed labor and Karachi-built sewer pipes would be instructive for Djakarta.

63. One difficulty with the septic tank-cesspool sewer solution is that it would contaminate the underground water which might otherwise be pumped from shallow wells and used with a minimum of filtration. The water table of Djakarta is just below the surface, and only the water from deep wells (over 100 meters) is sufficiently separated from surface waters to be uncontaminated. Unfortunately, the water from deep wells bears traces of Indonesia's volcanic past: the water is warm and is said to have a high carbonic acid content. Nevertheless, it might be worthwhile to have a study made of the pumping, storage and filtration possibilities of using greatly increased quantities of underground, and even surface water, partly to reduce the water table and the flood control problem. Filtration techniques elsewhere in the world can use highly contaminated water.

64. A more probable solution was proposed in 1963 by Nikon Suido Consultants Co. Ltd., a Japanese consulting engineers. They recommended that water be brought to Djakarta from the Tjisadane River upstream at Gobang. The Tjisadane River is the largest of the rivers which flow sluggishly into the Djakarta basin. It is located 20 km. west of Djakarta and is thoroughly contaminated when it reaches the sea. Upstream the water is fresh, however, and the volume is sufficient to provide, together with existing sources, enough water for five million people at the ample rate of 325 to 350 liters per person per day. Unfortunately, the estimated cost of this project in 1963, including the cost of fixing and/or replacing pipes in the existing delivery system in Djakarta, installing new meters and renovating the Pedjompangan filtration plant was in excess of US\$150,000,000. The plan was not carried out and would, of course, cost more today. Since 1963 the existing treatment plant has been repaired somewhat with funds from the central government, and the Djakarta government has sunk a few wells whose pumps operate with wind power. But the system is basically the same, only older. The pipes in the distribution system need replacing as do the trunk line pipes which should be considerably larger. The meters at the filtration plant and at the user end of the system need to be replaced, without which the proper collection of water charges is impossible. Basically, however, the system needs to be enlarged and new, less polluted sources of water need to be found to supplement the good water now coming from springs near Bogor and mixed with the contaminated water of the Bangjir canal.

65. The Japanese Government recently concluded an agreement with the central government of Indonesia to finance a new study by Japanese consultants to propose urgent and long run water solutions to Djakarta's fresh water needs. Four firms are preparing bids, and the work should be undertaken in 1971. But the issue of financing has not yet been raised in detail. If Djakarta had more fiscal autonomy and a rational water rate structure, the city government might itself undertake to finance at least some of the system. As it is the central government would have difficulty finding the resources to finance an expensive municipal water supply, although it is financing and arranging for foreign assistance to finance, substantial rehabilitation works for some of the main municipal water systems of the country.

66. The power system of Djakarta, also a central government operation, is probably the best managed and maintained utility, serving the area. If present plans are carried out, there should be sufficient, dependable electricity for all users in Djakarta by 1974. As shown in Table 17, power sales have been rising steadily, just about matching the population increase. Still, only 19 percent of the buildings in Djakarta officially receive electricity from the system, and few receive enough to operate a single room air conditioner. Local power failures are frequent because many neighborhood transmission lines need replacing. For this reason many business establishments use high cost power generating equipment, in some cases in lieu of power from the system and in others in addition. It is estimated that private generating equipment may produce as much as 50 percent as much power as the entire Djakarta system. If this practice continues, the sale of public power when it becomes more reliable and more available may be more difficult than otherwise.

67. At the present time, new users are not sought: they simply increase the probability of power failure for existing users. Thus, prices charged for new power installations may be as high as US\$4,000, and the rate structure is arranged so that marginal rates increase with the quantity of power used. The impact on new business investment is obvious, though installation and rates will become more rational as the capacity of the system increases.

68. The same comments may be made about telephone installations. A new telephone installation costs at least 100,000 rupiahs and is impossible to obtain without an additional negotiated payment to relevant personnel. Among other things, this increases the need for face-to-face meetings and adds to traffic problems. The telephone system is currently being studied by British and Australian management consultants. It would appear that it will be expanded and improved in the foreseeable future.

69. For all of these -- water, power, and telecommunications -- collection is a problem. Partly because the mail system is undependable, and partly because relatively few Indonesians maintain commercial bank accounts, the delivery of bills is never by mail and the payment, seldom.

Sometimes collectors go door to door, but even that is unreliable. The surest method is for the user to send a messenger to the relevant local office of the water, power, or telephone company, request a bill and, if it is found, make payment. Sometimes the messenger has to return several times. The system would be improved if the date on which bills were available were well-known and dependable and if there were a single office for the payment of all bills including, perhaps, rubbish collection and radio, television and property taxes as well as water, power, telephone, etc.

70. Management consultants investigating ways and means for improving Djakarta's financial and accounting practices would do well to consider the payment of utility bills.

71. A final element of infrastructure to be considered is the airport. It is probably important to the future of Djakarta, and, indeed, of Indonesia that the airport here be able to service the larger and faster planes which seem destined to become realities during the decade of the 70's. But the present airstrip is inadequate partly because it is too close to the center of Djakarta, hitherto an advantage, and partly because the landing strips require reinforcement, the cost of which would be higher than would be the case further south where the ground is more stable -- less swampy. The latter consideration would apply equally to possible sites west and east of Djakarta near the sea. Both of these would also have the defect of being unnecessarily far from the main thrust of new industrial development -- south and south-east of Djakarta -- as well as the major new highways now being contemplated.

72. An American engineering firm is currently at work on an airport feasibility study considering seven alternative sites. The findings will be available in early 1971, but the cost of a new international airport would seem to be beyond the immediate capability of the Indonesian Government. In any event, a new airport from initial planning to completion could require as long as ten years, so change is not imminent, though initial plans may be. Planning for the future growth, land use and highway development in the greater Djakarta area must include the airport as a consideration, and vice versa. While the future can never be foreseen with perfect accuracy, attempts to do so are more likely than otherwise to produce rational development over time.

Land Use

73. Planning for the optimum land use in Djakarta and other major cities in Indonesia is being carried out within the Djakarta Planning Department and the City and Regional Planning Workshop of the Department of Public Works of the Central Government by competent young graduates of the Institute of Technology at Bandung, a number of whom have also had experience overseas. Their problem is that even where their views are fully accepted, the relevant governments in Indonesia do not have the funds to implement their ideas nor the means to enforce rigidly the land-use zoning necessary to the implementation of their plans.

Planning and Zoning

74. Modern land use planning in Indonesia was encouraged by town ordinance 1948 No. 168 and Town Planning By-Law 1949 No. 40 authorizing every town to prepare a plan. An outline plan for Djakarta was prepared in 1957 by a team of experts from the United Nations together with Indonesian planners. With modifications, this became the basis for the Master Plan of Djakarta (see Figure 3). Approved in 1967 and subject to review every 5 years, this plan has the effect of zoning law since it is used as a land-use guide by the Djakarta Department of Planology whose approval is necessary before building construction may begin. It does not have the force of law at the level of the Central Government. It is still being studied by the Central Government's Departments of Public Works and Interior. It may be modified by the Governor of Djakarta who probably uses this authority in his negotiations with prospective new investors in the city. For example, the Governor recently authorized a new industrial zone in an area previously reserved for residential use toward the far southern end of the city on the west side of the Bogor road. The southern edge of this zone abuts the Tjipinang River. The zone is 2 or 3 kilometers long and, perhaps, 1 kilometer wide, and would appear to be an ideal location for an industrial part or estate, though some of it has already been acquired for industry by single users.

75. The 1957 Outline Plan states in part:

"Djakarta is suffering greatly from urban decay, a fact which should be realized by all concerned. Every year this city of ours suffers: some tens of times each year floods occur and fires break out, the traffic on roads is becoming rapidly more congested, and unauthorized buildings multiply on or at the side of main roads or rivers.*

... the problem of Djakarta may be summarized under four main headings:

- 1) There is insufficient productive employment for the citizens of Djakarta.
- 2) There are too few decent homes for the people.
- 3) There is bad traffic congestion on the streets of Djakarta.
- 4) There are too few social facilities like schools, mosques, shops, open spaces, clinics, etc., in Djakarta.**"

* Kenneth Watts et al, An Outline Plan for Djakarta, 1967, p. iv

** Ibid., p. 2.

76. If it had been added that the infrastructure is inadequate, there are impediments to business expansion and the financial management of the city requires strengthening, this statement would apply as well in 1970 as in 1957, though this is merely a measure of the fact that cities do not stand still; there is never a final solution.

77. Among other things, the 1957 plan proposed that new homes be built at a rate in excess of 10,000 a year, that new schools and market places be constructed for each neighborhood, that a modern sewer system be installed, that architectural controls be placed on new buildings in the center of the city and that open space be preserved. None of these recommendations has been carried out.

The Master Plan

78. The 1957 Outline Plan and the subsequent Master Plan of Djakarta are based on the historic growth pattern of Djakarta. The oldest part of Djakarta is the Kota, pre-nineteenth century Batavia, located near the sea northwest of the geographic center of the city. The commercial center of the city, the Kota area is the most congested and unhealthy, the buildings are the most in need of repair or replacement. Planners have suggested that the Kota should be redeveloped, that is torn down and rebuilt block by block, though the costs, human and financial, of doing so have not been calculated.

79. The center of Djakarta is the Medan Merdeka, nineteenth and twentieth century Batavia, now the primary center of government buildings surrounding a great square with an imposing monument to Indonesian freedom. South of the Medan Merdeka is Djatinegara, a more modern residential and market center, and northeast is Tandjung Priok, the modern harbor. From north to south in 1957 the city measured 10 km, from west to east, less than 5, within which there were open spaces, particularly around the airport at Kemajoran, built in 1938 midway between the Medan Merdeka and Tandjung Priok. This was no accident. The area around the airport is marshy: it is ill suited to substantial building; it is hot, humid and unhealthy. It was because of these conditions that the Dutch moved their headquarters from the Kota to the Medan Merdeka and that most subsequent growth has been, and will probably continue to be southward. A sort of underground ridge or shelf runs through Djakarta (indeed along the north coast of Java) just south of the Medan Merdeka, north of which the ground is swampy and unstable. Thus, for example, the foundations of the "Sarinah", a fourteen-story government store near the Medan Merdeka required foundation pilings of 40 meters, while the Hotel Indonesia, of similar height just two blocks south, required pilings of only 10 meters.

80. In spite of this important geologic and geographic fact, the 1957 plan proposed that the city of Djakarta should grow outward concentrically from the Kota-Medan Merdeka axis, and subsequent city planning has followed this concept. The Kota was to be redeveloped but to remain the commercial

center. The Medan Merdeka area (Gambir) was to be the government center surrounded by a multiple residential area -- the inner city, and two lower density residential rings -- the middle city and the outer city. The outer city was to be composed of planned, high-quality residential villages or suburbs of 80,000 or so persons each having its own markets, schools, hospitals, etc.

81. One such outer suburb, Kebajoran Baru, was still being constructed in 1957 and has turned out more or less as planned, though its population density is already greater than planned, and it is being infiltrated by temporary housing and other extensions of the general poverty of the rest of the city. Similar outer ring suburbs were to be built concentrically more or less equidistant from the Kota-Gambir center of Djakarta, and this intention is still indicated on the official 1965-1985 Master Plan. But while spillover from Kebajoran Baru has induced residential development in various directions from that suburb (Kebajoran Lama, Slipi) and from Tibet, southeast of the city center, the areas closer to the sea remain unattractive and undeveloped despite the Master Plan.

82. The 1957 plan proposed that a major highway be built from Tanjung Priuk to Djatinegara, continuing on as in a ring around the city. This "by-pass" road has been constructed, and some development along it is taking place, though less than had been supposed. An outer ring road was also proposed to serve industrial areas as was an airport west of the Kota, beyond the green belt surrounding the entire city. This has not been built, and it may never be built in that location for the major development thrust of Djakarta seems to be southeard toward Bogor and the cooler, healthier, lower cost, more attractive and most stable foothills, the area where planners would probably built a city if they were to begin in 1970 rather than 1610.

83. The 1957 plan proposed that industry be encouraged to locate along the sea between Tanjung Priuk and the Kota (in addition to a recreational area), immediately northwest of the city, and around the Kemajoran airport. Major industrial areas have since been added in the Master Plan east of the by-pass road and, as mentioned above, in the far southeastern section of Djakarta along the road to Bogor. Of these, only the latter now appears promising unless major inducements are offered to offset the disadvantages of the other industrially zoned areas or relative land prices change dramatically. In a sense, the government of Djakarta is caught between the Master Plan and basic economic forces, and the conflict is probably slowing industrial growth somewhat as the city modifies its plan slowly. The development of industry, particularly foreign corporate industry, is impeded somewhat in any event by the basic land laws and building authorization procedures of a slowly moving if well intentioned bureaucracy, an understanding of which point requires a brief digression.

Land Ownership and Transfer Laws

84. The philosophy of Indonesian land law is that all the land is agrarian and is owned collectively by the people, i.e., the state. Land in cities as well as the countryside is administered by the Director General of Agrarian Affairs. Legislation pertaining to land use is set forth in various agrarian acts such as the Basic Agrarian Act No. 5, 1960, adopted on September 24, 1960, which defines land rights, the most important distinction being that only Indonesian citizens may use land in perpetuity -- may exercise "hak milik". This was a reaffirmation of traditional Indonesian custom or "adat" law and was a denial of colonial law under which Europeans "owned" land (possessed "Hak eigendom") in cities and agricultural estates. The basic Agrarian Act was supplemented in 1964 but specific urban land legislation has not been considered by the central government.

85. The following land rights are specified in the Agrarian Act of 1960:

- (a) "hak milik"
- (b) "hak guna-usaha"
- (c) "hak guna-bangunan"
- (d) "hak pakai"
- (e) "hak serva"
- (f) "hak membuka tanah"
- (g) "hak memungut-hasil hutan"

86. For all practical purposes, "hak milik" confers upon the possessor the same control over land as is customarily associated in the west with the so-called right of private property. It may be held only by private Indonesian citizens. Hak milik may be transferred or inherited or mortgaged, though only by private Indonesian citizens. It could lapse if the land were neglected.

87. All the other rights to land are circumscribed by conditions such as the manner in which the land may be used or the time period of its use. The government requires that each land contract be authorized, and this procedure can be the cause of much delay, frustration, bargaining, red tape and, perhaps, corruption.

88. "Hak guna-usaha" is the right to cultivate land for up to 25 years. If the capital investment required of the user is substantial, as may be true if more than 25 ha. are involved, a 35 year period could be granted. "Hak guna-usaha" may be transferred, but may only be possessed by Indonesian citizens and corporate bodies established under Indonesian law and domiciled (having an office) in Indonesia.

89. "Hak guna-bangunan" is the right to construct and use buildings on non-owned and, therefore, government or on "hak milik" land for a period of 30 years. It may be extended by the State for an additional 30 years. This right may be held by Indonesian citizens or corporate entities domiciled in Indonesia. This is the right which is purchased by foreign industrial companies operating (domiciled) in Indonesia. They may purchase this right from private Indonesian citizens who possess "hak milik" or, from the government. It may be that the industrial companies must negotiate both with private citizens and with a government entity. It may also be that "hak milik" passes from private Indonesian citizens (is abandoned) as part of the transaction. In this case the land becomes government land at the end of the relevant time period.

90. "Hak pakai" is the right to use or to gather the product of land directly administered by the State.

91. "Hak sewa" is the right to construct buildings on government or "milik" land or "guna-bangunan" land and for which the possessor pays rent. It may be exercised by resident aliens and foreign corporations as well as by Indonesian citizens.

92. "Hak membuka tanah dan memungut hasil hutan" is the right to collect forest products. "Hak guna-air" is the right to obtain water. "Hak guna-ruang-angkasa" is the right to use power and elements in the air. "Hak Tanggungan" is the right to possess a mortgage claim against land used by those possessing "milik", "guna usaha" and "guna-bangunan".

93. The upshot of this legislation is that no one owns any land absolutely, only Indonesians may use land in perpetuity, and the Director General of Agrarian Affairs of the Central Government or his delegated authorities must approve all the transfers of the various rights to land.

Land Acquisition and Building Approval Procedures

94. The first legal step which must be taken by anyone desiring to obtain a right to land in Djakarta which he has found suitable for his purpose and whose owners have been found, is to request permission from the Chief of the Agrarian Section of the Djakarta Municipal authority to purchase an appropriate right to the land. If the request is proper, a permit to transfer use (one might say "title") from seller to buyer will be granted. The time taken for this step may be a month.

95. The second legal step is registration of the transaction (one might say "deed") with the land registry office of Djakarta, a municipal provincial office, which has proper maps of surveyed plots in the area. This normally takes about three months and requires the payment by the buyer of a fee which may vary from 3 percent to 10 percent of the total selling price.

96. The legal documents which must be submitted to the Agrarian Department and the Land Registry Office are prepared by specified legal officers. In Djakarta, this function is performed for the most part by Notary Publics appointed by the Minister of Agrarian Affairs. 1/ Deeds of land transfer and Certificates of Title may also be drawn by a few retired civil servants specifically appointed by the Ministry of Agriculture and by the various district chiefs or Tjamats.

97. Before building construction is legal in Djakarta, two additional government offices must be contacted. The Planology or Town Planning Department must determine that the use of the land conforms to the Master Plan of Djakarta. Specific building plans must also be approved by the Public Works Department of Djakarta. The Public Works Department deals with regulations on foundations, type of material, height, setbacks, design, etc. Final approval is not issued until the building is completed, though constant communication between this department and the builder is usual. There is some evidence that the employees of this department can be capricious in their requirements.

98. There is a published building code, but it is difficult to obtain.

Land Prices

99. A substantial portion of the land in Djakarta is possessed outright by the city government. It may be occupied by government buildings, used under the rights of "hak guna-bangunan" or "hak serva" or be vacant. The Djakarta Office of Land and Building Enterprise (Perusahaan torah dan Banginan) seeks purchasers for the right to this vacant land, particularly that which is located in the heart of the city. The asking price for the latter is US\$50 a square meter (US\$5 a sq. ft.) plus a 10 percent entrance fee. This is not unreasonable for vacant land in the heart of a major city, though it may be that there are hidden costs which result from negotiations over the widening of streets, the design of the buildings or the construction of additional facilities, (e.g., theaters or stores). In some cases, moreover, the title to this land may not be clear.

1/ Notary Publics are attorneys or solicitors who have successfully passed at least the second of three major examinations given at the present time by the Ministry of Justice. In the whole of Indonesia, some 150 notaries have passed the second examination and are licensed to practice. In Djakarta there are 48 notaries, all but eight of whom have passed all three examinations. The remaining eight are preparing to take the third examination which they must pass in 1971 if they are to keep their licenses. After 1971 the state examinations will be abolished and examinations will be given instead by the law faculties of the University of Indonesia and the University of Padjadjaran in Bandung only to qualified graduates of those law schools.

100. Vacant land in the high quality residential suburb of Kebajoran Baru is priced in the range of Rp. 5,000 to Rp. 15,000 a sq. meter for "hak milik" (US\$1.30 to 3.90 a sq. ft.). Most of the land owned by Djakarta and planned for industry may be used for 30 years for US\$5 per sq. meter (\$0.50 per sq. ft.) but it is unstable and has no utilities available. It is not competitive with "hak milik" land in the new industrial zone between Djakarta and Bogor.

101. In theory all differences of opinion as to land title or use may be adjudicated through the national system of courts, and for the most part this works out in practice, though there may be substantial delays. (Some cases have been pending for 10 years.)

102. Collectively, the various legal and approval requirements described above present a substantial hurdle to a new industrial investor whether foreign or domestic. It may take six months to a year for an investor to get past this hurdle after his resolution is firm and before his plant construction can begin.

Industrialization and Development

103. Since the passage of Law No. 1 of 1967 on Foreign Capital Investment and Law No. 6 of 1968 on Domestic Capital Investment, the central government of Indonesia has sought to encourage new industrial enterprise. In addition to returning to foreign companies the use for up to 30 years of assets previously expropriated, the central government has offered tax and other incentives to foreign and domestic companies. The government of Djakarta has similarly sought to attract new investment. Among other things in 1969 the Djakarta Investment Office was created to help potential investors find land and utilities and to guide them through the procedures discussed above. This is a useful office and deserves support.

104. Problems remain, some of which are discussed in the Industrialization section of this report, but investors are responding to the improved atmosphere in Djakarta and elsewhere in Indonesia. According to Djakarta sources, nearly Rp. 3 billion of domestic capital and Rp. 90 billion of foreign capital were committed to the Djakarta area from January 1, 1967, through the first quarter of 1969.

105. Foreign investors give good reports about Indonesian labor. Workers and managers are quick to learn, skilled when trained, dependable, conscientious, intelligent, competitive with their counterparts in other countries. Labor is not a bottleneck. The impediments to more rapid domestic investment appear to include a shortage of investment capital, a relative lack of awareness of management and marketing techniques except on a small scale, and, perhaps, some cultural bias against business enterprise accentuated by the relatively more honorific status accorded those in Indonesian society who pursue careers in religion, government, teaching

and the armed forces. The impediments to more rapid foreign investment would appear to include the relative unavailability or high cost of infrastructure and the red tape of government. The latter is particularly important. For all the good intentions of central, provincial and local government in Indonesia, the almost interminable delay of bureaucracy -- the negotiations, the meetings, the approvals, the repeated explanations remain. If the government of Djakarta had complete jurisdiction over investment within the city boundaries, if clear-cut industrial zoning were well published, if printed building codes were available and land-use and construction permit procedures were clear, and if land prices remained reasonably competitive -- industrialization would almost certainly proceed rapidly in greater Djakarta and would do so without damage to basic Indonesian laws or institutions. There appear to be many competent firms willing to put together a number of enterprises in an industrial estate or park, including new low-cost housing, but they are confronted by the prospect of negotiating with so many government bureaus, boards and committees that they do not know where or how to begin.

106. Cities have two primary related but separable functions: to provide their inhabitants as consumers with more goods and services (including culture, knowledge, experience and leisure) than they could enjoy if they did not live closely together, and as producers with more production for a given cost than they could deliver if they were not located in close proximity. Cities have a powerful role to play in providing the institutions and encouraging the intricate economic inter-relationships which collectively yield a higher measure of well being for the people.

107. Cities in developing countries are particularly useful if they can nurture growing industries which can increase output at declining unit costs over time providing thereby more employment and rising wages. This is not to say that industry is the only proper economic base for a city. As may be readily inferred from Table 18, Djakarta has a long run relative advantage in banking and insurance, in government (and defense) and in shipping and air transportation. It has had at least a temporary economic base in new construction. More recent figures would probably show that the Djakarta economy is growing at the moment quite largely because of foreign tourists and visitors. It is estimated that 10,000 foreigners are now in Djakarta, most of them with ample expense accounts, buying food and souvenirs and services and housing -- bidding up some prices but generating income in Djakarta.

108. In the long run, however, declining cost, innovating industries serving national and international markets are particularly useful because they are a major source of rising labor productivity. Some indication of Djakarta's probable comparative advantage in industrial activity may be inferred from Table 19, (printing, chemicals, metal products, electrical machinery and transport equipment) though it may also be inferred that little medium- and large-scale industry existed in Djakarta in 1963 when the last census of manufacturing was taken.

Table 18: Gross Domestic Product of DCI Djakarta
by type of industry as a share of its
national economy (In percentage) 1966-68

<u>Industry</u>	<u>1966</u>	<u>1967</u>	<u>1968</u>
1. Agriculture, forestry, fisheries	1.85	1.64	1.40
a) Foodstuffs	2.32	1.80	1.45
b) Cattle raising & products	6.83	5.77	6.29
c) Products of fisheries	0.37	0.29	0.39
2. Mining and Minerals	-	-	-
3. Manufacturing	8.94	10.60	8.53
4. Construction	38.49	27.47	21.88
5. Electricity, Gas and Public water supply	37.20	24.61	24.29
6. Transportation and Communication	37.90	38.18	53.59
a) Railroad transportation	24.47	18.39	17.67
b) Air transportation	79.30	79.09	80.27
c) Communication	10.95	8.89	17.55
d) Other transportation	38.13	40.64	56.35
7. Trade: Wholesale and Retail	25.37	25.03	22.73
8. Banks and other financial institution	82.39	68.43	74.58
a) Bank	78.14	65.82	66.25
b) Insurance	90.00	90.00	90.00
c) Other	1.72	3.05	3.06
9. Dwelling	22.39	23.86	23.90
10. Government and defense	12.02	12.77	14.17
11. Services	1.37	1.10	1.17
12. Gross Domestic Product in DCI Djakarta	9.25	8.92	8.73

Source: Office of Census and Statistics - DCI Djakarta

109. Signs of the aggregate growth and improvement of Djakarta are numerous. During 1969, 13 new hotels with 2,431 new rooms were approved for projected new construction. The number of licenses granted for the transfer of property rights increased from 766 in 1968 to 1,122 in 1969. These licenses involved 536,159 sq. meters in 1968 and 1,308,322 sq. meters in 1969. The land area involved in permits to transfer land for building use doubled in 1969 over 1968. The number of major crimes declined from 1966 to 1969. The increase in the number of radios and television sets used in Djakarta is summarized in the following table.

Table 20

<u>Year</u>	<u>Radios</u>	<u>T.V.</u>
1962	124,580	
1963	141,309	
1964	169,987	
1965	205,494	38,393
1966	263,174	47,438
1967	350,665	56,760
1968	421,947	78,531
1969	469,162	

Source: Census and Statistics Office, Djakarta

In the meantime, however, the population of Djakarta has continued to increase and the shortages of infrastructure and public amenities remain.

110. It may be that the once planned program of transferring the seat of the central government to Bandung (and the seat of the regional government of West Java to Tjirebon), thus relieving somewhat the pressure on Djakarta, should be reconsidered. If the data could be obtained, a calculation might well show that more people can be well served by a given expenditure on additional social overhead capital (including the costs of redeveloping parts of Djakarta) if some expenditures were made in Bandung, or even Bogor. Just as New York City grew as a financial and industrial center even though Washington, D.C. became the capital of the United States, so also might Djakarta develop well, and develop more orderly, if it were obliged to fulfill one major function rather than two. The matter might be worth further research.

Conclusion

111. If the Governor's proclamation closing Djakarta were really enforced while the Djakarta infrastructure were at least doubled and some of the low productivity wage earners and small businessmen, particularly in wholesale and retail trade, were induced to shift to higher productivity employment in industry, particularly that producing for the national and international market, significant development might occur.

Table 19: Main Industrial Groups by No. of Establishments^{1/}
and Employees, Djakarta, West Java and Java, 1963

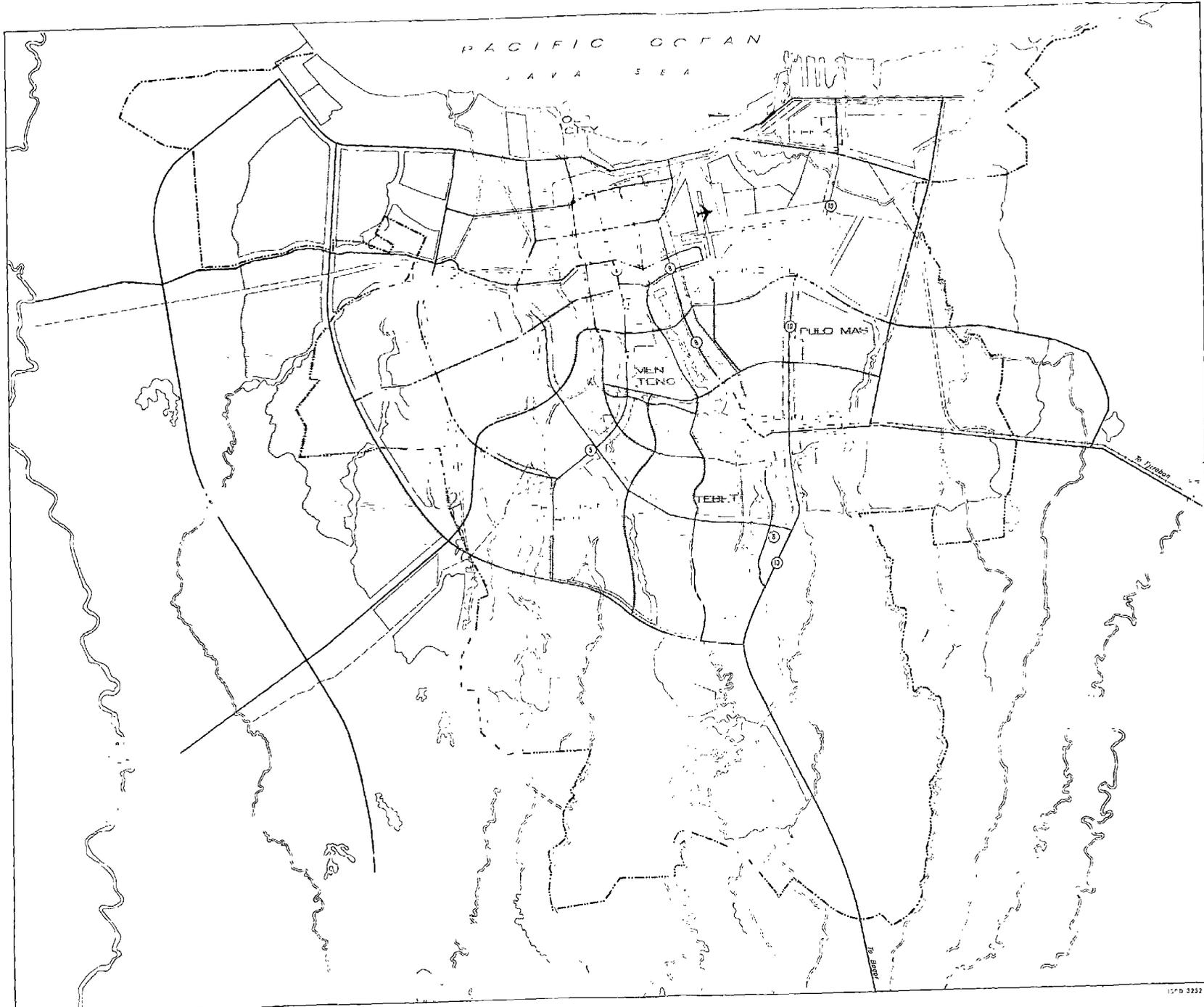
Main industrial groups	Djakarta Raya		West Java		Total for Java ^{2/}		Djakarta as a percent. of West Java and Djakarta		Djakarta as a percent. of Java	
	No. of establish.	No. of employees	No. of establish.	No. of employees	No. of establish.	No. of employees				
1. Food	329	5,570	1,627	40,873	5,503	204,185	16.8	12.0	5.9	2.7
2. Beverages	57	1,067	63	970	265	5,299	47.5	52.4	21.5	20.1
3. Tobacco	4	82	11	191	1,971	141,489	26.7	30.0	0.2	0.1
4. Textiles	618	19,076	2,800	95,106	9,232	274,576	18.1	16.7	6.7	6.9
5. Made-up textile goods	178	6,132	80	2,967	470	13,405	69.0	67.4	37.8	45.7
6. Wood	77	1,499	99	1,864	860	14,621	43.8	44.6	8.9	10.3
7. Furniture and fixtures	57	823	57	1,241	449	7,677	50.0	39.9	12.7	10.7
8. Paper & paper products	40	2,197	30	1,521	192	9,222	57.1	59.1	20.8	23.8
9. Printing	211	9,028	109	3,832	563	21,078	65.9	70.2	37.5	42.8
10. Leather & leather goods	43	1,515	28	756	157	4,809	60.6	66.7	27.4	31.5
11. Rubber & rubber goods	68	7,326	356	26,008	609	46,214	16.0	21.9	11.2	15.6
12. Chemicals	183	7,323	85	3,322	648	24,394	68.3	68.8	28.2	30.0
13. Mineral products (non-metallic)	133	4,381	534	13,269	1,161	33,346	19.7	24.8	11.5	13.1
14. Metal products (except machinery)	221	8,371	106	3,552	774	25,908	67.6	70.2	28.6	32.3
15. Machinery (non-electrical)	10	681	23	1,087	80	5,233	56.6	38.5	37.5	13.0
16. Electr. machinery and appliances	58	2,583	18	752	152	5,913	76.3	77.5	38.2	43.6
17. Transport equipment	252	16,228	127	4,494	744	32,890	66.5	78.3	33.9	49.3
18. Miscellaneous manufactures	93	2,786	53	1,010	488	9,784	63.7	73.4	19.1	28.5
Total	2,652	96,668	6,206	202,815	24,318	880,043	29.9	32.3	10.9	11.0

^{1/} Large and medium.

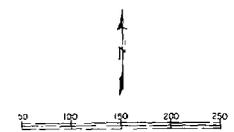
^{2/} The five regions are aggregated:

D.C.I. Djakarta Raya
West Java
Central Java
Jogjakarta
East Java

112. The problems of Djakarta are immense. But if the cities of Indonesia -- including Djakarta -- are not overcome by human migration, some could become growth poles for the nation. Those who have lived in Djakarta for some years, without minimizing its problems, agree that it is a better city than it was, not only in a physical sense but also in the sense of a new spirit of hope and enterprise. Perhaps the people are ready to endure the sacrifice necessary to a better tomorrow, and Djakarta will become a leading sector of a growing economy.



INDONESIA
 MAJOR ROADS & LAND USE
 PLAN - DJAKARTA



- LEGEND
- HOUSING
 - PUBLIC & MIXED DUALING
 - INDUSTRY
 - BOUNDARY
 - MAIN ROADS
 - RAILWAYS
 - RIVER
 - LAKE
 - AIR PORTS
 - HARBOR

- NAMES OF THE ROADS
- 1 GADISIA MADA
 - 2 HAJAM WURUK
 - 3 MERDEKA DAMAT
 - 4 TRIAMIN
 - 5 GUNDO GUMMAN
 - 6 WIRRODA TIMAR
 - 7 MATRAMAN RAYA
 - 8 RAMAT RAYA
 - 9 DINUNG SAMARI
 - 10 BY PASS