

Document of  
**The World Bank**

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**4776**  
VOL. 1

INDONESIA

SELECTED ASPECTS OF SPATIAL DEVELOPMENT  
(A Main Report and Four Annexes)

Main Report

ECONOMIC AND SOCIAL DEVELOPMENT:  
AN OVERVIEW OF REGIONAL DIFFERENTIALS AND RELATED PR

November 1, 1984

Country Programs Department  
East Asia and Pacific Regional Office

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CURRENCY EQUIVALENTS

Currency unit = Rupiah (Rp)

US \$1.00 = Rp. 970 (1983)

US \$1.00 = Rp. 625 (1980)

US \$1.00 = Rp. 450 (1978)

FISCAL YEAR

January 1 to December 31

## INDONESIA

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## INDONESIA

### SELECTED ASPECTS OF SPATIAL DEVELOPMENT

#### FOREWORD

In 1974, a Bank mission visited Indonesia and prepared a report entitled A Framework for Regional Planning in Indonesia /1. It was the first Bank Group mission of its kind, and essentially it was a "technical assistance mission to provide ..... a framework of knowledge, policies, organization, procedures and trained personnel within which the national and local governments could carry out regional planning more effectively"./2 Since that time, while some progress has been made on the decentralization of economic planning, economic and social development disparities across the various regions of Indonesia have not been a subject of in-depth study and analysis partly because of paucity of new data. In recent years, however, the availability of provincial gross domestic product estimates, national socio-economic survey data and the information from the 1980 census filled that gap to a large extent. The Bank took the lead to assemble a large provincial data base covering various economic and social indicators. The objectives of this report are to present the key regional economic and social data, describe the present situation and recent trends and identify emerging issues relating to spatial disparities in economic and social development and suggest their implications for further follow-up work.

This study is organized in the form of a main report and four annexes. This volume, the main report, contains an overview of provincial economic and social development differentials as well as a summary of the principal trends and emerging issues in inter-regional migration and regional distribution of public expenditures which are among the processes that can contribute to narrowing of inter-regional economic and social disparities. The annexes have supporting material as well as additional data. Annex 1 deals with an analysis of the pattern of industrial location and has regional data on the manufacturing sector for 1979, as well as information on the Government locational guidelines. Annex 2 deals with inter-provincial migration analysis (Part I) and provincial demographic characteristics and population projections (Part II). Annex 3 also has two parts, the first dealing with an analysis of provincial public finances and the second with regional planning. Annex 4 contains provincial socio-economic data for the past decade, excluding the specialized data presented in the other annexes.

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/1 Report No. 502-IND, August 15, 1974. (Volume I: Executive Summary, Volume II: Spatial Aspects of the Economy, and Volume III: The Needs and Objectives of Regional Planning).

/2 Ibid. Vol. I, p. i.

Two notable omissions in this report are analyses of transport and urban issues. In both these areas, there are recent or ongoing studies,<sup>/3</sup> and there is little justification to cover them again in the present report. Another major omission is an in-depth study of the development potentials of the different islands and provinces. It is beyond the scope of the present report.

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<sup>/3</sup> In regional transport, there was a comprehensive sea transport study and a recent road transport study, undertaken as part of Bank financed projects. Much follow-up work is being done presently by the Government and the Bank. A study of urban sector finances has been completed recently by Bank staff. In addition, there is a major on-going UNDP-GOI study aimed at formulating a national urban development strategy.

INDONESIA

SELECTED ASPECTS OF SPATIAL DEVELOPMENT

SUMMARY

1. A distinguishing characteristic of Indonesia is its geographical and demographic spread. The country's land area of a little over 1.9 million sq. km. is distributed over 13,600 islands. The most populated island of Java, with about two-thirds of the country's population, has only 7% of the total land area. Sumatra, Kalimantan and Sulawesi respectively had 25%, 28% and 10% of the area, and 19%, 4% and 7% of the population. The remaining islands (called "Eastern Islands" in this report) had 30% of the area and only 7% of the people. The population of 156 million (1983 estimate) comprises over 50 ethnic groups and several hundred language/dialect groups.

2. In the context of Indonesia, there are two major factors that motivate a study of the spatial diversities in economic and social development. The first factor of "intrinsic necessity" arises because Indonesia's large population and natural resources are spread unevenly over the country. The second factor, namely, "Government interest" arises because spatial equity in economic and social development has been incorporated as one of the objectives in the country's development plans, and also because of the Government's concern to ensure that the different islands of the country are brought together in terms of economic linkages and interdependencies which will set a strong basis for political stability.

3. This report describes the present situation and identifies recent trends relating to spatial disparities in Indonesia and some of the processes that are relevant to achieving eventual reduction in such disparities. The implications of the report's findings for the formulation of plans and programs at sectoral and regional levels are noted. The report also highlights the policy-oriented issues that have to be addressed in future studies.

Spatial Differentials in Economic Development

4. Differentials in Poverty Incidence. Of the 144 million Indonesians in February 1980, 57 million or nearly 40% have per capita consumer expenditure below an absolute poverty cut-off. The poverty problem is the most serious in rural Java and parts of Eastern Islands. The rural areas of the Eastern Islands are also characterized by relatively high incidence of deprivation (percentage of people whose food demands were not satisfied). In terms of absolute numbers, most of the poor are in Java (42 million out of an estimated 57 million in 1980) and half of the deprived (2.5 million out of 4.8 million) were in the Eastern Islands. At the provincial level, the rural target groups are in all the provinces of Java and Sulawesi and in Lampung, Bali, West Nusa Tenggara and East Nusa Tenggara. By and large, the same provinces have the urban poverty target groups also, even though urban poverty incidence is far less than rural poverty incidence in all cases. One clear implication of the data is that parts of the aforementioned geographical areas may need specially focussed poverty alleviation programs.

5. Differentials in Per Capita Gross Domestic Product. Inter-island differentials in per capita product are substantial. Java (except Jakarta), Sulawesi and Eastern Islands are low on product per head compared to Sumatra and Kalimantan. Provincial differentials are more pronounced than the inter-island differentials. Provincial differentials in per capita product are quite large in Indonesia in comparison to such differentials in developed countries, South Korea and Malaysia, but are not large compared to the Philippines and Thailand. The coefficient of variation computed for the provincial per capita GDP at constant prices increased from 70% in 1971 to 78% in 1979 when the oil sector was included in GDP and from 38% to 49% when the oil sector was excluded. Clearly, the degree of regional inequality in Indonesia increased in the past decade of fairly rapid overall economic growth at the national level. Contributing to this were the provinces in Java (other than Jakarta) and the Eastern Islands which had relatively low product per capita as well as low growth rate and Jakarta and some of those in Sumatra and Kalimantan which grew particularly fast due to oil exports. The growth potentials and the prospects for realizing relatively higher growth rates in the lagging regions should be thoroughly investigated and appropriate development strategies should be formulated.

6. Differentials in Growth Patterns and Economic Structure. Most provinces have experienced smooth growth (though at different rates) without major fluctuations in the 1970s. There are many provinces with fairly high export-GDP ratios. Different provinces tend to specialize in the export of different commodities; however, the range of commodities is limited. Either oil exports or other traditional exports dominate the economies of most provinces, especially those in the Outer Islands. Non-oil and non-traditional exports seldom occupied an important place. The record of the 1970s has been one of steady growth for almost all the provinces, largely due to fortuitous external circumstances favoring primary commodity exporters. In addition, there have been important shifts in product structure. Every region has experienced a decline in the share of agriculture, and an increase in the shares of manufacturing, construction, and commerce. Important regional differences persist in economic structure just as they do in regard to growth and poverty incidence. Java's manufacturing share in GDP in 1979 was a high 16% and Sumatra came next with 14%, as against Kalimantan's 5%, Sulawesi's 6% and Eastern Islands' less than 3%. The scope for and strategy of manufacturing development in the Outer Islands should be investigated in relation to the long-term development of the Outer Islands and the country's overall manufacturing sector.

7. Regional Differentials in Agriculture and Fisheries. With nearly two-thirds of the population, Java had to take the lead among the Indonesian regions in regard to food crop area and production, despite only 7% of total land area. The Outer Islands have a lead only in non-food estate crops. The principal crops, each with an area of one million ha or more in 1980/81 were, wet land paddy: 8.2 million ha (Java-60%), dry land paddy: 1.2 million ha (Java: 20%), corn: 2.9 million ha (Java: 66%), Cassava: 1.4 million ha (Java: 70%), coconut: 2.6 million ha (Java: 35%) and rubber: 2.5 million ha (Java: 4%).

8. There are significant inter-island differentials in agricultural productivity. In regard to wet land paddy, Java's yields are the highest, and have improved in the last decade. Sumatra's yield has declined in the 1970s whereas it has increased in all other areas. The yield level continues to be the lowest in Kalimantan. On Java, dry land yield has improved, but in other regions, improvements were minimal. Corn yield has improved in all the regions. Cassava yield in Java improved though not very significantly. Elsewhere improvements were minimal. Rubber yields in 1980 were slightly higher than in 1971 only in Java and Sumatra, and declined in Kalimantan. Coconut hectareage is well-distributed throughout the country, however, overall yield dropped in the 70's. A special up to date in-depth study should be carried out to address the issue of regional differentials in agricultural productivity and their implications for resource use and resource allocation.

9. Total fish catch increased from 1.2 million tons in 1971 to 1.6 million tons in 1980 giving an annual growth rate of 3.2%. Java's share in the total catch was 28% in 1980, slightly lower than Sumatra's share of 31%. Kalimantan's share dropped from 21% in 1971 to 16% in 1980. Its marine fish sub-sector contributed only 49% to the total catch, an exception to the generally large share (ranging from 75% to 90%) of marine fish to total fish catch. There are a number of possibilities for fisheries development. First, the past growth rate of the fisheries sector for the whole country was rather low. It could be stimulated by export development. Second, in the case of Kalimantan, there is a fairly long coast-line and it should be possible to increase its share in total output, especially by developing the marine fish sub-sector.

10. Domestic and Foreign Trade Orientation. Total inter-island trade flows increased from Rp 185 billion in 1969 to Rp 3,645 billion in 1979. Java's share of exports in total inter-island trade fell from 50% in 1969 to 35% in 1979, whereas its share of imports remained at 30% of total trade. A numerically large and important change was the decline in the percentage of total exports from Java to Sumatra. Some of the important if not numerically large, changes are reflected in the increasing trade linkages between Kalimantan and Sulawesi, Kalimantan and Eastern Islands and Sulawesi and Eastern Islands, (due in part to their physical proximity and hence relatively lower inter-island transport costs). Infrastructure development (i.e., development of ports as well as roads and railways) and institutional improvements (i.e., administrative and managerial improvements to maximize operational efficiency) could greatly facilitate the growth of inter-island trade linkages. These aspects were discussed in detail in the Integrated Sea Transport Study of 1980 conducted by the Netherlands Maritime Institute as part of a Bank financed project. A comprehensive review of the road sector was also recently undertaken as part of another Bank project. The follow-up work on these studies should be aimed at integrated development of transport infrastructure which could promote inter-island trade linkages and intra-island specialization based on comparative advantage.

11. The five major regions differ in regard to the relative importance of domestic and foreign trade. For products of Java and Sulawesi, export demand from other regions is as important as export demand from abroad. For the products of Sumatra and Kalimantan the export demand is mostly from

abroad. They export oil, gas, rubber and timber to the rest of the world and these are products based on resource endowments typical to Sumatra and Kalimantan. In the case of these two regions the prospects for widening the export base should be investigated. In the case of Java which specializes (in a relative sense) in food crop agriculture and consumer goods manufacturing, the scope for improving productive efficiency, establishing comparative advantage and developing exports should be addressed in policy-oriented sub-sector studies.

12. Government Economic Policies and Spatial Development: The Case of Industry. Of the wide range of government economic policies that affect the location decisions of firms, the most important are the high levels of protection afforded by the trade regime, investment guidelines laid down by the Investment Coordinating Board (BKPM) and recent regulations affecting import procedures. High levels of protection through import duties, import sales taxes and quantitative restrictions (including outright bans), have stimulated the growth of a wide range of industries oriented towards domestic markets. Amongst the several islands of Indonesia, Java represents the most important market with its large population, rich soil and relatively well developed industrial base. It certainly offered the most logical location choice for a large majority of new industries that sprang up over the past decade. Java also has other features that makes it attractive to potential investors. A relatively well developed road and port infrastructure, and proximity to the centres of decision-making within the Government provide potential savings in the long run. Moreover, better housing and education opportunities available in the large cities of Java attract skilled labor and managerial staff, creating a pool of talented human resources to the potential investor.

13. The Government has employed two policy instruments in response to the increasing concentration of manufacturing industry on Java. First, the Investment Coordinating Board issues guidelines on the location of new investments as a part of its annual list of investment priorities. The share of total industrial investments listed by BKPM which were subject to location guidelines rose from 3% in 1977 to 13% in 1982. Second, the Government has recently earmarked six industrial zones outside Java, and plans to attract industrial investments by concentrating on developing the infrastructural framework of these areas and initiating the process of industrial development through the creation of growth centers.

14. Finally, recent changes in import procedures may have spatial implications. Numerous decrees have been issued since November 1982 restricting imports of an increasingly wide range of goods by requiring that only licensed importers be allowed to import. In addition to the policy's declared intention of improving the expertise of importers, the new procedures will also give the Government powerful levers to control the level of imports. This may work to the detriment of small or scattered industries in outlying regions who may be hard pressed to obtain a timely supply of imported goods at competitive prices.

15. There are no quick solutions to the problems of regional or spatial concentration of industry. The Government's policy to spread industrial

development across different parts of the country is motivated by a desire to see an equitable distribution of the results of this development. This objective may need to be balanced by considerations of efficiency and long-term industrial growth. If policies designed to alter the location decisions of potential investors also serve to burden new industries with additional costs, the country runs a risk of encouraging investments which will prove uneconomic in the long run. The Government, on the other hand, can attract industries to Outer Islands by strengthening infrastructure facilities and providing improved public services such as health and education. The costs of this approach may need to be carefully weighed against the benefits of more uniform industrial development across the nation. At the same time the Government would also need to undertake periodic reviews of economic policies for their effects on industrial location and regional development.

### Spatial Variations in Social Development

16. Recent Trends at the National Level. There has been impressive growth in the provision of social services nationally. In the field of education, the number of government primary schools increased by 65% during the period 1970-80, junior high schools by 62% and senior high schools by 53%. In health, the number of public health centers increased from 2,679 in 1973/74 to 4,753 in 1980/81, an increase of 72.4% in just seven years. Urban water supply production capacity increased from 9,000 liters per second in the early seventies to over 21,000 liters per second in 1980. However, a large part of the total capacity (25,456 liters per second in 1980) was in urban areas only, and for the country as a whole, only 7% of the households in 1980 had access to piped water for drinking, and 4% for bathing. Only 8.9% of the households had a private toilet.

17. Education: Most provinces have literacy rates above 65% with respect to the population 10 years and over. In the primary school age group, the participation rates in each of the provinces of Java and Sumatra have increased from 60% and above in 1971 to 80% and above in 1980. The same can be stated about the other regions in general with the significant exceptions of Irian Jaya and West Kalimantan with primary school participation rates of 67% in 1980. Reasons for such low participation rates have to be investigated.

18. Participation rates do not tell the full story because people may enroll in schools but may not complete the schooling. In the rural areas of West Java, Central Java and East Java, over 40% of the youth in the age group 15-19 have not completed primary education, as against about 29% in the urban areas. In Lampung, South Sumatra and Riau, which are former transmigrant receiving regions, over 50% of the 15-19 population have not completed primary education. These percentages were also high in rural West Kalimantan (61% for males and 69% for females) and rural East Kalimantan (52% for males and 57% for females). In the case of Sulawesi and the Eastern Islands, the patterns were similar to those observed in Java and Sumatra with over 40% of the 15-19 rural population not completing primary education. Such large differentials as noted here between regions and between rural and urban areas also prevail

in regard to the secondary education completion rates. An analysis of these differentials is presently undertaken by the Bank to identify the causes behind them and the options available to remedy the situation.

19. Health Sector: Input and Output by Province. The regional differences in average populations served by health centers are striking. Java's provinces are all worse off compared to the national average. There are, however, other balancing factors such as relatively well-developed public and private hospitals. The private sector is quite active in some of the provinces. In Jakarta, Yogyakarta, Lampung, North Sulawesi and East Nusa Tenggara, the private sector share was more than 40% of the total bed strength. The government hospitals in Java and Sumatra are of relatively large size with 50% more average bed strength than in Kalimantan, Sulawesi and Eastern Islands.

20. Nationally, 26.4% of the urban households and an insignificant 2.1% of the rural households have access to piped water. Accordingly, the provinces with large urban areas have better access to drinking water. Those with especially insignificant access to piped drinking water are Lampung, Central Kalimantan and West Nusa Tenggara. The patterns described with reference to piped water broadly hold with respect to private toilets with septic tanks.

21. Provinces which had high infant mortality levels in the late 1960's and where the decline during the 1970's was no more than half of the national decline were East Java, West Sumatra, West Kalimantan, South Kalimantan, Central Sulawesi, West Nusa Tenggara and Maluku. The health, water supply and sanitation indicators have significant correlation with infant mortality. However, infant mortality is not highly responsive to any one single indicator and its reduction requires simultaneous action on many fronts.

22. Nutrition. There are significant spatial differences in nutritional deficiencies. For instance, the incidence of vitamin A deficiency among children is especially high in 15 provinces (listed in declining order of prevalence): Aceh, West Nusa Tenggara, Bengkulu, West Sumatra, South Sumatra, West Java, Central Java, Central Kalimantan, Bali, South Sulawesi, Maluku, South Kalimantan, West Kalimantan, North Sumatra and Southeast Sulawesi.

23. Family Planning. The family planning program was implemented in three phases in the past decade covering the different provinces. However, large regional fertility differentials still persist, with Sulawesi and parts of the Eastern Islands having relatively high fertility rates, and relatively low rates of decline; this aspect needs further study.

24. Social Sector Targets and Spatial Considerations. The spatial dimension should be an important consideration in formulating and implementing social development programs since the government is the principal investor in the social sector and humanitarian considerations call for narrowing, as far as possible, the spatial differentials in social development.

25. The Government's primary school enrollment projections indicate that for the nation as a whole enrollment rate is expected to increase from 88% in

1980 to 100% by the end of the Fourth Five Year Plan. What are the regional implications of these targets? During 1980/81 - 1988/89, the number of schools in Java and Sumatra have to grow relatively faster than in the other regions, in order to match the 1988/89 share of pupils. Sumatra and Sulawesi have to expand the teacher population at a rate larger than the other regions. In a field like education, national targets can be fairly easily translated into regional objectives. However, when there are financial stringencies, steps have to be taken to see that some of the relatively backward regions are not left far behind.

26. Commensurate with the past growth of primary education, the Government hopes to achieve rapid expansion of secondary and higher education. Given this rate of expansion in education, the concern naturally arises not only on regional equity in terms of quantity, but also and most importantly, equity in quality. At the University level, one finds the proliferation of institutions with less and less qualified staff as one moves farther from Jakarta and Java. This situation requires some attention and initiation of remedial action.

27. By the year 2000, according to the long-term development plan of the Department of Health, an infant mortality rate (IMR) of 45 has to be achieved. In relation to this it is clear that there are many regions where special efforts have to be mounted in order to bring down the high levels of IMR. West Java (IMR - 131), West Sumatra (122), South Kalimantan (122), Central Sulawesi (129), West Nusa Tenggara (188) and East Nusa Tenggara, Maluku and Irian Jaya (125) need special attention.

28. To establish a sound level of population per health center, the overall requirement seems to be over 20,000 public health centers, much larger than the 5000 centers currently in place. In the process of the expansion of the health infrastructure, special attention should be given to Java and Sumatra and some of the provinces in the Eastern Islands. Similarly, to supply piped water for drinking purposes to, say, 25% of households instead of the 7% in 1980, very large magnitudes of increases in production capacity are required and large regional differentials in the expansion rates are implied.

29. One important question in regard to water supply and sanitation expansion is: where should the incremental capacity be located in the short-run - in the urban areas predominantly or in both urban and rural areas, or in rural areas. Urban-rural needs and priorities as well as prospects for cost recovery are the principal issues.

#### Population, Migration and Employment

30. Population Growth and Distribution: The average annual population growth rate for the country in the 1970s was about the highest in the past five decades: 2.3% for the period 1971-80 as against 2.1% for 1961-71 and 1.5% for 1930-61. The provinces of Jakarta, Lampung, Bengkulu, Jambi and East Kalimantan had average population growth rates of 4% or more, largely due to relatively high in-migration rates. In respect of the last four provinces in-migration was the result of both official transmigration and voluntary migration.

31. Migration Rates and Trends, 1971-80: By and large the migration patterns indicated by the data in the 1971 and 1980 censuses were the same in regard to direction of movement by province. In a number of Sumatra provinces in-migration was a significant proportion of the population size. For instance, in the province of Riau, 1 out of 6 inhabitants was an in-migrant and in Jambi the proportion was 1 out of 5. Most conspicuous are the figures for Lampung (an old receiving area for transmigration), where in-migrants made up 39% of the total population. In Java, Jakarta continued to attract large numbers of in-migrants, with 40% of the population of Jakarta born outside Jakarta. In Kalimantan, the provinces of South and East Kalimantan during the 1970s received a number of workers from other areas. The association between volume of migration and distance showed up in the migration links between a number of neighboring provinces.

32. Inter-island Migration: During 1971-80, 1.7 million people moved from Java to the Outer Islands. Out of this, one million could be accounted for by the official transmigration program. The official transmigration program thus played a singularly important role in the net out-migration from Java. In fact, in the absence of the official program, the outflow from Java would have been 0.7 million or less and would have been almost equal to the inflow of 0.5 million into Java. Another important point to note is the ability of different areas to attract in-migrants. Sumatra and Kalimantan have this capability; not only the inflows were larger than the outflows but also transmigrants accounted for half of the inflows thus indicating relatively high levels of voluntary in-migration along with officially sponsored in-migration. Sulawesi, being relatively poor and underdeveloped, has not yet demonstrated such a capability to attract voluntary in-migration. In fact, relatively more people moved out of Sulawesi to all the islands, and this exemplifies that people from the relatively poor regions move out voluntarily to improve their living standards.

33. Characteristics of the Migrants: Of those who moved to the rural areas, 17.3% had junior or senior high school education compared to 5.4% for the non-migrants. This percentage was a high 40% for the migrants into Java, reflecting very clearly that Java, especially the urban areas, notably Jakarta and Surabaya, drain the Outer Islands of their relatively highly educated manpower. Among the migrants moving into the urban areas, 76% are found in the services, followed by industry (mining, manufacturing and construction) with 21%. Of the migrants moving into rural areas, 60% work in the agricultural sector, 26% in the field of services and 13% in mining, manufacturing and construction.

34. Determinants of Migration: The provincial migration data were used in conjunction with various social and economic indicators to find the major determinants of migration by using multiple regression analysis. The findings were a stable and significant positive association between the rates of official transmigration and net migration and a positive and less significant relationship between provincial gross domestic product per capita and the rate of net migration.

35. The Transmigration Program: During the period 1971-80, a million people have been moved under the Government transmigration program. Govern-

ment targets continue to be ambitious partly because of the perceived need to move Java's rural poor to the Outer Islands. Among the problems facing the program is the likelihood of escalating costs due to the need to go to more remote and less favorable areas for land development for transmigration. In addition, inadequate supply of inputs, finance and marketing facilities have serious repercussions on settler welfare. There is also some evidence that the transmigrant receiving provinces have not fared well on the poverty incidence scale. Lampung's rural poverty incidence was a high 47% in 1980, Southeast Sulawesi was worse (53%) and South Sulawesi was only marginally better (46%).

36. Issues in Migration and Transmigration: Net inter-island movement from Java to the Outer Islands would have been insignificant in the absence of the officially sponsored transmigration. It appears, therefore, that in its pursuit of the long-term objective of controlling population density and reducing poverty on Java, the Government will have to continue to provide some incentives for migration from Java. So far, in the Government transmigration program, each settler family was provided with free transportation to the site, land for cultivation, some agricultural inputs and allowances in cash/kind for an initial settling-in period. It is not entirely clear whether the future programs can continue to provide such a costly package. A more important question is whether alternative strategies can be more effective in promoting migration and ensuring settler welfare. For instance, the Government could "free" the land in the Outer Islands from the customary ownership rights, improve access to such land and permit its purchase by the Javanese. Another possibility is that migration can be encouraged by promoting the development of urban growth centres in the Outer Islands. Such a policy may help reduce the inflow of the relatively educated people from the Outer Islands into Java in addition to encouraging movement out of Java. Finally, the rather high level of poverty incidence in some of the transmigrant receiving provinces needs to be studied to undertake remedial measures.

37. Labor Force and Employment Developments in the 1970s and the 1980s: Java, Sulawesi and E. Islands have had reduced labor absorption (in terms of number of persons) in agriculture. Sumatra and Kalimantan did better largely because of agricultural job creation via the transmigration program. Industrial and service employment increased at respectable rates in all regions. There was a good regional spread of the industrial sector jobs, mostly due to the spread of the household and small scale industries.

38. Implications of Labor Force Growth: An additional 16 million persons are expected to enter the labor force in the 1980s as against the 10 million in the 1970s. While some agricultural jobs can be obtained in the Outer Islands, mostly via the transmigration program, a major portion of all the new jobs in the 1980s will have to come from industry and services, which will be increasingly located in the urban areas. The process of urbanization to the extent possible can be guided by government initiatives to develop centers of urban and regional growth within the various provinces of the Outer Islands. Of the 16 million new entrants into the labor force in the 1980s, half will be in Java, a quarter in Sumatra and a quarter in the rest of the country. Commensurate with an anticipated 5% to 6% per annum national

economic growth rate for the 80's, Java's growth rate may be 4.5% to 5% and all other regions may grow at rates between 8% to 10%. The past (70's) employment elasticities of 0.31 for Java, 0.45 for Sumatra, and 0.20 each for Kalimantan, Sulawesi and Eastern Islands, if applicable in future, cannot give the required employment growth rates in the 80's in all the regions except possibly Sumatra. The need of the 80's thus is an employment-oriented growth strategy in the different regions. A first step to initiate such a process will be to review the various government policies to identify the constraints, if any, to labor-intensive growth and the removal of such constraints.

### Regional Finances and Planning

39. Central and Regional Fiscal Flows: In 1980/81, the total government revenue was Rp 12.6 trillion. Central accruals amounted to 92% with only 8% collected by the regions. The center used 78% and distributed 14% to the regions. The regions depend to a large extent on the financial flows from the center. In 1976/77, the regions received 58.5% of their total income from the central Government, this figure rose to 63.6% in 1980/81. Especially at the present time, the Government is well aware of the need to augment government non-oil revenues and is presently taking several steps toward tax reform. The opportunity should be used also to simplify and rationalize local taxation.

40. Provincial Patterns of Revenue and Expenditure: The range of per capita non-grant revenue by province was Rp 2,400 in Central Java to Rp 56,000 in East Kalimantan, while the average for the whole country was Rp 5,700. There is a high correlation between provincial per capita revenue and non-mineral GDP per capita. Thus, if regional government expenditures were to be totally dependent on regional revenues, then the regions with relatively higher GDP per capita could spend more on social and economic development and those with lower GDP per capita would spend less, thereby exacerbating the problems of regional economic and social disparities. In this context, grants from the central Government can perform a transfer function to fill the gap between regionally needed expenditures and regionally obtained revenues.

41. Central development spending per head of population and per capita INPRES grants are highly correlated. It was also found that there was a significant correlation between per capita INPRES grants and per capita non-grant income. These seem to imply that the grant allocations favor the better-off and in fact contribute to regional inequalities rather than help to reduce them. This issue requires further careful study and analysis.

42. A New Approach to Determining the Levels of Central Grants to Social Sectors: There are basically two alternative approaches for determining central grants: (i) one based on development potentials of each region and (ii) the other based on regional needs. The latter approach may be applicable to grants allocated for the development of for social sectors. The following factors could provide the elements of a sound approach to improving grant distribution: (a) estimate for each service the annual expenditure needs by region for raising the level of services by the standards developed for each region over a planning period; and (b) deduct from this the estimated local resources available for expenditure on that service. The result would be the central grant payable to the region each year for the plan period. This

method, while providing full compensation for resource short-falls, would not provide an incentive to raise local revenues. To overcome this, modifications can be made; for instance, a portion of the central grant can be linked to local revenue raising effort. The pros and cons of establishing an approach such as the one described should be reviewed.

43. Financial Administration: The diversity of sources and channels of finance for regionally provided public services poses many problems of coordination and program management. Responsibility for many regionally provided services is divided between the central Government sectoral agencies and the regional governments, each with their own financing sources. The areas of responsibilities could be more clearly divided among them, after a sector by sector review of the present situation.

44. Within the central Government sectoral areas, there seem to be few strong arguments for the separation of development finance into development project funds, supplementary budget, crash program and foreign aid channels right down to the regional project teams. It should be possible to combine these various sources centrally into single parcels of finance provided through consolidated budget allocations to each sectoral program or project at the regional level.

45. Within the area of regional government activities, matters might similarly be simplified if the INPRES grants were regarded as contributing to the financing of the regional development programs along with finance from local revenue sources, entering the main regional budgets rather than having to be accounted for separately as at present.

46. Regional planning agencies have the responsibility for the preparation of plans as well as annual development budgets. A system of rolling plans will be useful in integrating annual budgets and medium-term plans.

47. Regional Development Planning: The Case of NTB Province and Implications: The movement towards planned regional development began with the preparation of a number of regional studies. During the Second Plan period, (1974-79), a number of regional development studies were commissioned with foreign assistance. Sixteen of these, covering most of the country, were carried out at a cost of about \$20 million. The NTB province was covered as part of the Eastern Indonesia Regional Development Study undertaken in 1974. For translating the many initiatives recommended in the study into investment proposals a project was launched with UNDP funding. The project, executed by the World Bank, developed several investment proposals. It demonstrated that the regional planning agencies can benefit greatly from technical assistance and training relating to the study of development potentials, formulating development strategies and preparing investment proposals. A new round of studies of regional development potentials aimed at developing not only broad strategies but also detailed project pipelines would be timely, and should be undertaken during the early part of the Fourth Plan.

## CHAPTER 1

### INTRODUCTION

#### The Relevance of Spatial Development Issues

1.01 One of the most distinguishing characteristics of Indonesia is its geographical and demographic spread. Straddling the equator, it extends some 3,400 miles or 5,110 km from Northwest Sumatra to Irian Jaya. The country's land area of a little over 1.9 million sq km is distributed over 13,677 islands.<sup>1/</sup> As early as in 1928, Bahasa Indonesia was adopted as the national language to assist the integration of the diverse regions and ethnic groups. More often than not, the casual observer may feel that since Indonesia has one language, the diversities are minimum. This is far from the truth. The population of 156 million (1983 estimate) comprises over 50 ethnic groups and several hundred language/dialect groups. In the years since independence, attempts have been made to bring about unity among the peoples by adopting a pancasila /2 ideology as the basis for policy formulation and by explicitly recognizing inter-regional economic integration as a step towards lasting political integration. The state logo speaks of "Bhineka Tunggal Ika" or unity in diversity.

1.02 In the context of Indonesia, there are two major factors that motivate a study of the spatial dimensions of economic development. The first factor is the intrinsic necessity of looking at the country in terms of what it really is, namely, the diverse components - the major islands, provinces, and cultures. The second factor is a corollary to the first; namely, the Government's declared interest in, concern for, and objectives of regional development. The two factors are briefly discussed below.

1.03 The first factor of "intrinsic necessity" arises because Indonesia's large population and natural resources are spread unevenly over the country. The study of development with a view to evaluating development policies of the past and presenting policy directions for the future must pay attention to the peculiar spatial diversities of the country. The island of Java, accounting for 7% of the total geographical area, contains 63% of the 156 million people. It is a natural site for setting up modern consumer goods industries, investing in transport and other infrastructure and establishing high level educational, health, civic and cultural facilities. Problems confronting Java are high density, poverty in large numbers, very little additional arable land and many landless laborers. These are in sharp contrast to the problems of

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<sup>1/</sup> Nearly 93% of the population, however, is found on 4 islands, namely Java, Sumatra, Kalimantan and Sulawesi.

<sup>2/</sup> Pancasila stands for the five principles of belief in one God, humanitarianism, social justice, nationalism and democracy.

almost all other regions. They have relatively low population density, unexploited virgin jungles, minimal infrastructure and some people in poverty pockets due to lack of complementary production factors. Even within the islands off Java, Sumatra, Kalimantan and Sulawesi have widely differing resource and demographic profiles compared to, say, Irian Jaya.

1.04 The second factor, namely, Government interest in regional development emerges rather clearly from a purely political standpoint, to ensure that the different islands of the country are brought together in terms of economic linkages and interdependencies which will set a strong basis for political integration. The nation did see threats of "disintegration" in the past, as for instance, in the Sumatra rebellion in 1958. It is clearly necessary to ensure that the people of no region feel left behind in the development process. Thus, it has become necessary for the Government to state, articulate and address various objectives of regional development.

#### Government Development Objectives

1.05 Inter-Regional Equity: The best summary of the country's development objectives is the "development trilogy" spelled out in the Third Five Year Development Plan (REPELITA III):

- "(a) A more even spreading of development and its results that will lead to the creation of social welfare for the entire people;
- (b) A sufficiently high economic growth, and
- (c) A sound and dynamic national stability."/3

The Plan envisaged eight courses of development to achieve the first objective. One of the eight is the even distribution of economic development all

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/3 The Third Five-Year Development Plan (REPELITA III), 1979/80-1983/84, Draft, (English Translation), March 1970, P.T. Karya Manca Warna, p. I-3.

over Indonesia./<sup>4</sup> In that context, the objective of regional development was translated as the objective of inter-regional equity./<sup>5</sup>

1.06 Regional Development Strategies: Chapter 22 of the Third Five Year Plan deals exclusively with "Regional, Village and Town Development." At the outset of the Chapter, the main directions of regional development were outlined as enunciated in the Guidelines of State Policy./<sup>6</sup> Some of the more important of these directions are: (a) harmonization of sectoral development programs with the potentials and the problems of each region; (b) transmigration from the densely populated Java to the Outer Islands; and (c) provision of aid and incentives for intensifying the development of relatively backward regions.

#### Choice of Units: What Regions?

1.07 A classic issue in spatial studies is selecting the units of analysis. As one authority on the subject has pointed out, "Indeed, defining regions precisely is such a nightmare that most regional economists prefer to shy away from the task, and are relieved when they are forced to work with administrative regions on the grounds that policy considerations require it or that data are not available for any other spatial units."/<sup>7</sup> For the purpose of translating Indonesian development objectives into programs and projects

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<sup>4</sup> The eight courses are the even distribution of: (a) basic needs goods; (b) education and health services; (c) income, (d) employment opportunities; (e) business opportunities; (f) participation in development; (g) development over entire Indonesia; and (h) opportunity for justice. Ibid, pp. I-4 and I-5.

<sup>5</sup> Indonesia is not the only country which has such a development objective. Most countries with large geographical areas and regional diversities (e.g., India, Malaysia, Mexico) have similar objectives. In Mexico for instance "Because of interest in achieving sustained economic growth and in distributing it equitably, recent administrations have paid greater attention than their predecessors to the spatial distribution of the benefits of economic development". Ian Scott, Urban and Spatial Development in Mexico, A World Bank Publication, Johns Hopkins University Press, 1982, p. 18.

<sup>6</sup> The 1945 constitution of Indonesia calls for the adoption of Guidelines of State Policy (and the election of President) once in five years by the People's Consultative Assembly. The 1978 Guidelines for State Policy which is presently in force has five chapters, among which is Chapter IV: Basic Guidelines for the Third Five-Year Plan. See Team Pembinaan Penatar Dan Bahan-Bahan Penataran Pegawai Republik Indonesia: UUD, Pedoman Penghayatan dan Pengamalan Pancasila, GBHN, pp. 73-74.

<sup>7</sup> Harry W. Richardson, Regional Economics, University of Illinois Press, 1979, p. 17.

with a decided location and for ensuring adequate supervision and implementation at the field level, Indonesia is organized into provinces, regencies, municipalities, subdistricts and villages. These regions at different levels are the focal points for planning and implementation of national development programs and projects in Indonesia.<sup>/8</sup> In this study the provinces are the focus of attention, especially in the various annexes. In this volume, the focus is, more often than not, on the relatively larger regions (islands or island groups) of Java, Sumatra, Kalimantan, Sulawesi and the Eastern Islands (a name used here to include all other areas).

### The General Framework for this Report

1.08 Description of the spatial diversities in various key economic and social indicators and articulation of recent trends in them is one part of the present report. The other part deals with the economic and social processes that help to minimize inter-regional inequalities. Typically such processes refer to population movements and spatial distribution of public expenditures. These are considered in this report in some detail. In addition, intra-spatial improvements in resource allocation and productive efficiency help to bring out the best from each region and also contribute to reducing inequalities. An understanding of these aspects requires in-depth studies of the development potentials of each region. These studies are beyond the scope of the present report.

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/8 A brief description of the apparatus for political/administrative decision-making in Indonesia is given below. Policy making at the highest level is undertaken by the People's Consultative Assembly (MPR or Majelis Permusyawaratan Rakyat). The Assembly meets only once in 5 years to ratify the Guidelines for State Policy (GBHN or Garis-garis Besar Haluan Negara), and elect the President and Vice-President. The MPR has 920 members: 50% or 460 come directly from the House of Representatives (DPR or Dewan Perwakilan Rakyat) and the remaining half are representatives of regions and other functional groups such as businessmen, students and farmers. The House of Representatives (DPR) has 460 members, of which 360 are elected every 5 years in the general elections, and 100 are nominated by the President. The DPR meets several times in a year to pass legislation, approve the budget and generally supervise government operations. Regional assemblies are elected at the provincial and sub-provincial levels, even though their legislative powers are limited. Indonesia has five administrative levels. At the top, the central government decision making apparatus is contained in the various government departments (ministries, headed by a minister). The second, third, fourth and fifth levels are: provinces (headed by Governors), Kabupatens or Regencies (headed by Bupati), Kotamadyas or municipalities (headed by a Walikota), Kecamatan or subdistricts (headed by Camat) and villages (headed by Lurah).

Organization of the Report

1.09 This report starts with an analysis of inter-regional disparities in economic and social development and some key issues relating to them (Chapters 2 and 3). It then probes into population, migration and employment issues (Chapter 4), fiscal issues and issues relating to regional planning (Chapter 5). The four annexes have supporting material and data. Annex 1 on industrial location patterns and policies is an attempt to describe the present location pattern and policies affecting location. Annex 2 has two parts. The first part provides an analysis of inter-regional migration patterns based on a distinctive set of tabulations from the 1980 census. The second part deals with demographic analysis and population projections. Annex 3 has two parts. The first has an analysis of provincial public revenues and expenditures and the second has a discussion of the evolution of regional planning in Indonesia with special reference to the province of Nusa Tenggara Barat (NTB). The final annex contains selected provincial data on economic and social indicators for the period 1970-80.

PART I

SPATIAL DIVERSITIES IN ECONOMIC  
AND SOCIAL DEVELOPMENT

CHAPTER 2

SPATIAL DIFFERENTIALS IN ECONOMIC DEVELOPMENT

Introduction

2.01 During the period 1971-80, Indonesia's overall rate of economic growth was an average of 7.3% per annum. Per capita gross domestic product increased at 5% per annum during the period. Against that background of impressive overall performance, this chapter describes the present situation and recent trends in spatial disparities in poverty incidence, per capita product, economic growth and developments in selected sectors. Towards the end of this chapter, to illustrate the way in which Government economic policies may bring about spatial differentials in development, an attempt is made to review briefly the impact of industrial and trade policies on the location of manufacturing industries.

Differentials in Poverty Incidence

2.02 Overall Magnitudes: Of the 144 million Indonesians in February 1980, 57 million or nearly 40% had consumer expenditures below the absolute poverty cut-off./1 Although the incidence of poverty has declined from a high 57% in 1970 to 40% in 1980,/2 the present magnitude is still very high and constitutes the major challenge that the country faces.

2.03 Variation Among the Major Regions. The poverty problem is the most serious in rural Java and parts of Eastern Islands as discussed below. In rural Java, 52% of the people were in absolute poverty in 1980. This was one extreme. At the other extreme, poverty incidence in urban Kalimantan was a low 8% (Table 2.1)./3 Java, Sulawesi and the Eastern Islands (Bali, NTT, NTB, Maluku, Irian Jaya) ranked high on poverty incidence in the rural areas as well as the urban areas, although within each region, poverty incidence in

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/1 See Appendix 1 for the provincial, rural and urban poverty lines and the poverty magnitudes.

/2 A detailed analysis of poverty issues is contained in a paper on "Poverty in Indonesia: Trends, Associated Characteristics and Research Issues", August 1983.

/3 Such wide regional variations have also been observed in other countries. For instance, in Brazil, in 1974-75, poverty incidence was only 5% in metropolitan Sao Paulo whereas it was 62% in rural Northeast. See G. P. Pfeffermann and R. Webb, The Distribution of Income in Brazil, World Bank Staff Working Paper No. 356, 1979.

Table 2.1: POVERTY MAGNITUDES FOR THE MAJOR REGIONS, 1980

Major region	<u>Poverty incidence (%)</u>			<u>Incidence of deprivation (%)</u>			<u>Population in poverty (Million)</u>			<u>Population in deprivation (Million)</u>		
	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
Java	52.3	29.6	46.5	0.5	1.2	0.7	35.1	6.8	41.9	0.3	0.3	0.6
Sumatra	21.5	15.8	20.4	4.2	1.5	3.7	4.7	0.9	5.6	0.9	0.1	1.0
Kalimantan	12.4	8.1	11.5	4.5	1.2	2.6	0.6	0.1	0.7	0.2	*	0.3
Sulawesi	42.7	21.1	39.3	3.6	3.6	3.6	3.7	0.3	4.0	0.3	0.1	0.4
Eastern Islands	47.7	24.3	46.7	27.9	4.8	26.1	4.1	0.3	4.4	2.4	*	2.5
Indonesia	43.3	25.8	39.3	3.8	1.5	3.3	48.2	8.4	56.6	4.1	0.5	4.8

Source: Appendix 1.

\* Less than 0.1 million persons.

- Notes:
1. Incidence of Poverty: Percentage of total population below a designated poverty line (See Appendix 1 for details).
  2. Incidence of Deprivation: Percentage of population whose food demands are not satisfied. This is measured on the basis of the data on the percentage of food expenditure in total by expenditure class (See Appendix 1 for details).

urban areas was way below that in the rural areas. Kalimantan had the least poverty incidence and next in order was Sumatra. The rural areas of the Eastern Islands were also characterized by the highest incidence of deprivation (percent of people whose food demands were not yet satisfied), and would need special attention in regard to taking measures for the enhancement of purchasing power among the poor and ensuring adequate food supplies. In terms of absolute numbers, most of the poor were in Java (42 million out of an estimated 57 million in 1980) and half of the "deprived" (2.5 million out of 4.8 million) were in the Eastern Islands. Clearly, there are two problems here: the general poverty problem in the rural areas of Java, Sulawesi and the Eastern Islands and the special 'food' cum purchasing power problem in the Eastern Islands. The results become even more clear-cut and sharp at the provincial level.

2.04 Variation Across Provinces: At the provincial level, the data on the incidence of poverty in 1980 are summarized in Table 2.2. If rural poverty incidence above 25% and urban poverty incidence above 20% are characterized as "serious", then the rural target groups are in all the provinces of Java, and Sulawesi and in Lampung, Bali, NTB and NTT. By and large, the same provinces (Java excluding Jakarta, South Sulawesi, Lampung, Bali, NTB, NTT) have the urban poverty target groups also.

#### Regional Distribution of Key Indicators

2.05 The data on regional distribution of land, population, gross domestic product, investments and paddy output (Table 2.3) provide a simple summary of spatial inequities. The dichotomy between land distribution and population distribution is very evident - especially when Java and the Outer Islands are compared. Java has 62% of the people, only 7% of the land area and about 50% of total GDP. When the distribution of GDP is compared with the distribution of population, Sumatra and Kalimantan have relatively higher GDP shares than Java, Sulawesi and Eastern Islands. In regard to foreign/domestic investments, Sulawesi and Eastern Islands have shares less than their population shares. Regional shares in paddy output are fairly close to population shares. The paddy output share of the Eastern Islands improved in the last ten years, but, was less than the population share.

#### Differentials in Per Capita Gross Domestic Product by Province

2.06 Large Differences: In 1979, Indonesia's GDP per capita was Rp 216,000 (or \$347). Regional differentials in per capita product were substantial. Java, Sulawesi and Eastern Islands were low on product per head compared to Sumatra and Kalimantan. Provincial differentials were more pronounced than the inter-island differentials. The relatively poor provinces of East and West Nusa Tenggara had per capita GDP levels of Rp 97,000 (\$156) and Rp 99,000 (\$159) respectively as against the relatively rich provinces of East Kalimantan and Riau with per capita GDP levels of Rp 1,872,000 (\$3,005) and Rp 1,723,000 (\$2,766) respectively. Spatial differentials in per capita product are quite large in Indonesia in comparison to regional differentials in USA, South Korea and Malaysia, but are not large compared to the

Table 2.2: POVERTY ACROSS PROVINCES, 1980: A SUMMARY TABLE

Range of poverty incidence	Affected provinces	Population in poverty (million)
<u>RURAL AREAS</u>		
I. Less than 25%	All provinces in Sumatra excluding Lampung, all provinces in Kalimantan and Irian Jaya	3.5
II. 25% - 35%	West Java, Central Sulawesi	7.6
III. 35% - 45%	North Sulawesi, Bali <u>/a</u> , Maluku	1.9
IV. 45% - 55%	Lampung, South Sulawesi, S.E. Sulawesi, N.T.B. <u>/a</u>	5.8
V. 55% and above	Central Java, D.I. Yogyakarta, East Java N.T.T. <u>/a</u>	27.7 1.5
	<u>Total</u>	<u>48.0</u>
<u>URBAN AREAS</u>		
I. Less than 20%	DKI Jakarta, All provinces in Sumatra excluding Lampung, all provinces in Kalimantan and all provinces in Sulawesi excluding South Sulawesi, Maluku, Irian Jaya	2.0
II. 20% - 30%	West Java, D.I. Yogyakarta, South Sulawesi, Bali <u>/a</u> , NTT <u>/a</u>	2.1
III. 30% - 40%	East Java, Lampung, NTB Central Java <u>/b</u>	4.3
	<u>Total</u>	<u>8.4</u>

/a These areas have relatively high rates of incidence of deprivation (See Appendix 1).

/b Poverty incidence (41.1%) was only slightly above 40%.

Table 2.3: REGIONAL DISTRIBUTION OF KEY INDICATORS

Indicator	(Year)	Percentage shares					Indonesia
		Java	Sumatra	Kalimantan	Sulawesi	E. Islands	
Land area		6.9	24.7	28.1	9.8	30.5	100.0
Population	(1980)	61.9	19.0	4.6	7.0	7.5	100.0
GPD (constant prices)	(1971)	54.5	27.9	5.8	6.4	5.4	100.0
	(1979)	50.5	27.2	9.6	6.6	6.1	100.0
Approved investment 1967-78							
Foreign		56.2	25.2	9.8	2.4	6.4	100.0
Domestic		65.2	18.6	7.9	4.8	3.5	100.0
Paddy output	(1971)	61.5	21.0	4.5	8.1	4.9	100.0
	(1981)	62.6	18.6	5.5	7.6	5.7	100.0

Philippines and Thailand (see the values of the coefficients of variation in Table 2.5).<sup>/4</sup>

2.07 Increasing Inter-Regional Inequality: The co-efficient of variation computed for the provincial per capita GDP at constant prices increased from 70% in 1971 to 78% in 1979 when the oil sector was included in GDP and from 38% to 49% when the oil sector was excluded (Table 2.5). (The magnitude of increase was much larger if current price data were considered.) Clearly, the degree of regional inequality

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<sup>/4</sup> The limitations of such international comparisons cannot be overlooked. For instance, the observational units (provinces, states, etc.) are not strictly comparable across countries. Also, the coefficient of variation is influenced by the degree of disaggregation.

Table 2.4: GROSS DOMESTIC PRODUCT PER CAPITA  
AT CURRENT PRICES BY PROVINCE 1971, 1975 and 1979  
(in '000 Rupiah)

Province	1971	1975	1979
DKI Jakarta	67	205	448
West Java	25	79	152
Central Java	22	60	127
D.I. Yogyakarta	19	64	119
East Java	25	70	147
<u>Total: Java</u>	<u>27</u>	<u>78</u>	<u>163</u>
D.I. Aceh	29	101	420
North Sumatra	40	102	230
West Sumatra	26	68	153
Riau	178	975	1,723
Jambi	43	78	192
South Sumatra	60	145	393
Bengkulu	26	57	149
Lampung	27	72	146
<u>Total: Sumatra</u>	<u>49</u>	<u>166</u>	<u>360</u>
West Kalimantan	30	82	168
Central Kalimantan	33	99	271
South Kalimantan	32	77	181
East Kalimantan	76	499	1,872
<u>Total: Kalimantan</u>	<u>38</u>	<u>149</u>	<u>488</u>
North Sulawesi	38	89	199
Central Sulawesi	17	58	148
South Sulawesi	24	69	159
South East Sulawesi	30	51	107
<u>Total: Sulawesi</u>	<u>26</u>	<u>70</u>	<u>161</u>
Bali	32	80	154
West Nusa Tenggara	16	47	99
East Nusa Tenggara	14	41	97
Maluku	33	91	239
Irian Jaya	33	221	555
<u>Total: E. Islands</u>	<u>24</u>	<u>78</u>	<u>180</u>
<u>INDONESIA: Total</u>	<u>31</u>	<u>97</u>	<u>216</u>

in Indonesia increased in the past decade.<sup>/5</sup> While the evidence for the 1960s and 1970s for the other countries in Table 2.5 is somewhat mixed, the long-term US experience points clearly to declining regional inequality.

Researchers have identified the following causes underlying this decline: (i) increased efficiency of resource allocation within regions <sup>/6</sup>, (ii) migration and (iii) relatively more government spending for the poor regions.<sup>/7</sup>

Regional inequality declined in the Republic of Korea over the early 1970s. Malaysia and Philippines, however, seem to share the Indonesian experience of increasing inequality whereas the Thailand experience of the 1970s has been one of little change in regional inequality.

2.08 A mapping of the Indonesian provinces is provided in Table 2.6 where they are classified by level of per capita GDP and the average rate of growth in GDP. Provinces in Java (other than Jakarta) and the Eastern Islands are prominent as the regions with relatively low product per capita and low growth

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<sup>/5</sup> Jeffrey Williamson in a study published in 1965, found that regional disparities were less pronounced in the high income and low income countries than in the middle income countries. This lends support to the view that in the early stages of economic development, regional inequalities will increase and then at the higher levels of development, regional per capita incomes will converge. Alan Gilbert and David Goodman, however, failed to notice any specific linkages between level of development and regional inequality. Williamson had in his sample of countries only four low income countries, whereas Gilbert and Goodman had a much larger number of them even though their sample consisted of low and middle income countries only - 15 in all with per capita income less than \$900 in 1967. For more details see Williamson, Jeffrey, "Regional Inequality and the Process of National Development: A description of the Patterns" in Friedmann, John and Alonso, Willima (ed)., Regional Policy: Readings in Theory and Applications, the MIT Press, Cambridge, Mass., 1965, and Gilbert, Alan, and Goodman, David, "Regional Income Disparities and Economic Development: A Critique" in Gilbert, Alan (ed)., Development Planning and Spatial Structure, John Wiley and Sons, London, 1975. For an earlier study of regional inequality in Indonesia, see Hendra Esmara, "Regional Income Disparities", BIES, March 1975, pp. 41-57. The paper showed that the degree of inequality increased during 1968-72. For a historical review of the colonial economic policies and their effect on regional inequality, see Mubyarto, Liekman Soetrisno and Michael Dove, Rural Development in Indonesia: Past Experiences and Future Policies, Gajah Mada University Yogyakarta, 1983, pp. 23-29.

<sup>/6</sup> See Borts G.H., and Stein, J.L., Economic Growth in a Free Market, Columbia University Press, 1964.

<sup>/7</sup> Richardson, H.W., "Empirical Aspects of Regional Growth in the United States", Annals of Regional Science, 1974.

Table 2.5: VARIATION IN REGIONAL PER CAPITA INCOMES ACROSS  
SELECTED COUNTRIES AND INDONESIA

Country	Years	Coefficient of variation (%) <u>/a</u>		
United States <u>/b</u>	1880	57.9		
	1900	42.5		
	1919/21	30.4		
	1949/51	23.4		
Korea, Rep. <u>/c</u>	1960	34.8		
	1974	20.7		
Malaysia <u>/c</u>	1963	31.8		
	1970	35.9		
Philippines <u>/c</u>	1971	54.5		
	1979	62.0		
Thailand <u>/c</u>	1970	75.0		
	1976	76.0		
		Current prices	At 1973 Prices	
Indonesia <u>/c</u>	RGDP/Capita	1971	66.5	69.5
		1975	112.7	74.9
		1979	119.0	77.5
	Non-oil RGDP/Capita	1971	40.5	37.7
		1975	39.9	42.4
		1979	52.3	49.0

/a Weighted coefficient of variation is used. The weights are the provincial population totals.

/b Source: Easterlin, R.A., "Regional Growth of Income: Long-Term Tendencies" in S. Kuznets et. al., Population Redistribution and Economic Growth, United States, 1870-1950, Vol. II, American Philosophical Society, 1960

/c Bank staff estimates.

Table 2.6: MAPPING OF THE PROVINCES BY PER CAPITA REGIONAL GROSS DOMESTIC PRODUCT AND AVERAGE ANNUAL GROWTH RATE

1970-79 average annual growth rate of RGDP	Per capita RGDP in 1971	
	Higher than national average	Lower than national average
Higher than national average	Jakarta Jambi S. Sumatra C. Kalimantan S. Kalimantan E. Kalimantan Irian Jaya	D.I. Jogjakarta Aceh W. Sumatra Bengkulu Lampung N. Sulawesi S. Sulawesi N.T.B
Lower than national average	N. Sumatra Riau Bali Maluku	W. Java C. Java E. Java W. Kalimantan C. Sulawesi S.E.Sulawesi N.T.T

rate. Jakarta and some of the provinces in Sumatra and Kalimantan had high level of product per capita and high growth rate. This phenomenon has contributed to the widening of the provincial disparities in product per capita. The growth prospects of the lagging regions should be thoroughly investigated.

#### Differentials in Growth Patterns and Economic Structure

2.09 Trends in Regional Gross Domestic Product (RGDP), 1970-79: Over the period 1970-79, most provinces have experienced smooth growth without major fluctuations. The exceptions are Riau and Bengkulu in Sumatra, and North Sulawesi. This can be noted from Table 2.7 where for each of the other 23 provinces an exponential trend has been found to fit well for the RGDP data. The data in the table also indicate that for almost all these 23 provinces, the growth rates are respectably high. Riau's RGDP fluctuations were induced by variations in the export price of oil: RGDP peaked suddenly in 1973 and then started stabilizing. Bengkulu had difficulties in exports of coffee and timber during 1972-74 after which exports and RGDP picked up. North Sulawesi's problems were due to the uncertain external market for copra.

Table 2.7: RESULTS OF EXPONENTIAL TREND REGRESSION FOR RGDP  
(1970-79)

Province	Trend rate of growth	r <sup>2</sup>	Province	Trend rate of growth	r <sup>2</sup>
DKI Jakarta	9.7	0.99	West Kalimantan	6.7	0.98
West Java	7.2	0.99	Central Kalimantan	10.5	0.98
Central Java	5.5	0.98	South Kalimantan	7.8	0.98
D.I. Yogyakarta	11.2	0.88	East Kalimantan	21.2	0.98
East Java	6.8	0.97	North Sulawesi /a	(3.9)	(0.68)
D.I. Aceh	10.8	0.94	Central Sulawesi	10.4	0.97
North Sumatra	7.3	0.98	South Sulawesi	11.2	0.95
West Sumatra	7.7	0.96	South East Sulawesi	6.3	0.94
Riau /a	(3.0)	(0.24)	Bali	7.4	0.99
Jambi	9.1	0.97	West Nusatenggara	8.7	0.96
South Sumatra	8.9	0.99	East Nusatenggara	6.2	0.91
Bengkulu /a	(9.0)	(0.68)	Maluku	5.0	0.95
Lampung	7.1	0.98	Irian Jaya	18.2	0.94

/a These provinces had severe fluctuations in RGDP, the exponential trends did not fit well, and the concept of a trend rate of growth would not be applicable.

2.10 Export Orientation: Table 2.8 has export to RGDP percentages by province for 1971, 1975 and 1979. There are many provinces with fairly high export-RGDP ratios. In the export menu, the principal items are rubber, timber, coffee and oil and gas. The islands of Sumatra and Kalimantan depend relatively more significantly on exports, and have maintained a leading position in regard to RGDP per capita compared to the other regions. Either oil exports or other traditional exports dominate the economies of most provinces. Non-oil and non-traditional exports have seldom occupied an important place. Even within the traditional category, most provinces depend exclusively on one or two commodities. Given that most primary commodities are notoriously famous for price fluctuations, one must conclude that a number of Indonesian provinces are naturally prone to instability. Yet, the record of the 1970s has been one of steady growth for almost all the provinces (three exceptions have been noted earlier) /8 largely due to fortuitous external circumstances favoring primary commodity exporters. In addition, there occurred important shifts in product structure described below.

/8 There is a strong and significant relationship between RGDP per capita and percent of exports in RGDP. The correlation coefficients are 0.76 in 1971, 0.86 in 1975 and 0.84 in 1979.

Table 2.8: EXPORTS AS PERCENTAGES OF RGDP,  
1971, 1975, 1979

Province	1971	1975	1979
DKI Jakarta	9.47	24.41	25.61 /a
West Java	0.31	2.15	4.44
Central Java	2.18	1.28	2.23
D.I. Yogyakarta	-	0.23	-
East Java	3.46	2.07	4.80
D.I. Aceh	4.05	3.04	51.79 /a
North Sumatra	28.41	3.04	20.16
West Sumatra	8.18	6.12	13.77
Riau	66.33	85.64	83.58 /a
Jambi	20.56	22.68	41.16
South Sumatra	23.64	19.26	31.92
Bengkulu	8.01	0.23	3.39
Lampung	26.95	12.89	25.19
West Kalimantan	23.25	15.82	38.52
Central Kalimantan	21.26	23.38	47.54
South Kalimantan	16.36	19.47	46.59
East Kalimantan	69.41	86.39	108.81 /a
North Sulawesi	4.78	2.94	6.49
Central Sulawesi	13.77	5.35	7.30
South Sulawesi	4.69	2.03	8.62
Southeast Sulawesi	16.68	21.48	22.80
Bali	1.67	1.54	2.32
West Nusa Tenggara	2.09	0.83	0.45
East Nusa Tenggara	2.43	1.20	2.85
Maluku	26.89	14.55	25.88
Irian Jaya	2.32	49.57	60.00 /a

/a In total exports, the percentage share of oil and natural gas was 54% in DKI Jakarta, 96% in D.I. Aceh, 96% in Riau, 68% in East Kalimantan and 79% in Irian Jaya.

2.11 Structural Change. The sectoral composition of the regional gross domestic product is shown in Table 2.9. Here, the shares of the principal sectors based on RGDP at constant prices are considered since data on current prices indicate relatively more exaggerated changes in the percentage composition because of shifts in relative prices. Every region experienced a decline in the share of agriculture, and increases in the shares of manufacturing, construction, and commerce. Although these structural changes have had a favorable impact on economic growth as well as poverty alleviation, important

regional differences persist in economic structure just as they do in regard to growth and poverty incidence. Java's manufacturing share in GDP in 1979 was a high 16% and Sumatra came next with 14%, as against Kalimantan's 5%, Sulawesi's 6% and Eastern Islands' less than 3%. That some of the Outer Islands lag behind in commercial development is also brought out by the data in Table 2.9. Java's commercial sector GDP share of 30% was much higher than the share in any other region.

**Table 2.9: SECTORAL COMPOSITION OF REGIONAL GROSS DOMESTIC PRODUCT  
1971 AND 1979 (AT CONSTANT PRICES)**

Region/Year	Percent of RGDP from							
	Agriculture	Mining	Manufacturing	Construction	Commerce	Service	Total	
Java	1971	42.7	1.7	12.2	3.5	26.8	13.1	100.0
	1979	30.3	1.6	16.3	6.4	29.6	15.8	100.0
Sumatra	1971	37.4	30.7	5.5	2.2	15.0	9.2	100.0
	1979	30.3	21.5	13.6	5.5	17.3	11.8	100.0
Kalimantan	1971	58.0	4.7	4.8	2.0	22.1	8.4	100.0
	1979	30.5	27.3	5.0	3.1	22.5	11.6	100.0
Sulawesi	1971	54.3	2.4	4.4	3.6	20.1	15.2	100.0
	1979	48.7	5.2	5.8	4.9	21.2	14.2	100.0
Eastern Islands	1971	64.4	0.9	1.5	3.5	12.7	17.0	100.0
	1979	48.0	14.2	2.6	5.2	15.0	15.0	100.0
INDONESIA	1971	44.0	9.9	8.8	3.1	22.1	12.1	100.0
	1979	32.6	10.5	13.0	5.6	24.1	14.2	100.0

**Regional Differentials in Selected Sectors**

2.12 **Food Crops:** In 1980, almost 26% or Rp 11 trillion out of Rp 44 trillion of Indonesia's GDP came from agriculture, livestock, forestry and fishing. Over half of this, or Rp 6.3 trillion was the value added originating in food crops, and out of this, 55% or Rp 3.5 trillion was from paddy. The other less important food crops were corn, cassava, peanuts and soyabean (together accounting for a little less than 25% of food crop value added.) With nearly two-thirds of the population, despite only 7% of total land area, Java had to be the leader among the Indonesian regions in regard to food crop area and production. It is only in non-food estate crops that the Outer Islands have a lead.

2.13 Among the food crops, those with an area of cultivation of a million ha or more are paddy, corn and cassava. (Soyabeans with 0.8 million ha and peanuts with 0.5 million ha are growing rapidly in terms of area.) In regard to paddy, net harvested area increased from 6.9 million ha in 1971 to 8.2

million ha. in 1981 (Table 2.10). During the period, of the increase in wet land paddy area of 1.3 million ha., more than half was in Java, about a quarter was in Sumatra and the remainder was shared by the other regions. Despite the sizable share in the incremental wet land hectarage, Sumatra's yields declined whereas Java's wet land yields increased substantially. Sulawesi and the Eastern Islands also had improved yields. Improvements in yields are noticeable in Kalimantan also, but, the levels continued to be the lowest. Dry land paddy area decreased from 1.5 million ha. in 1971 to 1.2 million in 1981. On Java, dry land yield improved, but in other regions, improvements were minimal.

2.14 In Table 2.10, data on corn and cassava are also provided. Java accounts for two-thirds of the corn area of some 3 million ha. Sulawesi and the Eastern Islands account for almost the remaining one-third. Yields in Java increased by 65% between 1971-81. Improvements in Sulawesi and the Eastern Islands were also substantial. Cassava area stagnated at 1.4 million ha. Yields in Java, which accounted for 70% of the area improved though not very significantly. Elsewhere improvements were minimal.

2.15 Estate Crops: Non-food and estate crops in 1980 accounted for 18% of GDP originating in agriculture, livestock, forestry and fishing. The important sub-sectors, among the non-food and estate crops (that is, with an area of a million ha or more) are rubber and coconut.<sup>/9</sup> (Table 2.10) Most of the rubber hectarage is under small holdings. The area increased from 1.8 million ha. in 1971 to 2.1 million ha. in 1980. Most of the increase was in Kalimantan although Sumatra accounted for 70% of the total small holder area. Yields in 1980 were slightly higher than in 1971 only in Java and Sumatra, and declined in Kalimantan. Government and private estates are not of major significance in relation to total area under rubber; but, the yield levels are much higher on estates than on small holdings. For instance, government estates in Sumatra obtained 1,100 kg/ha in 1980 compared to 545 kg/ha on private estates and 357 kg/ha on smallholdings. Coconut hectarage is well-distributed throughout the country. Overall hectarage increased from 1.9 million in 1971 to 2.6 million in 1980. Wide regional variations in yield could be noticed. Regional yield differentials, such as those noted here, in food and estate crops have to be studied to find the factors causing the differentials.

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<sup>/9</sup> Other important estate crops are oil palm, sugarcane, coffee and tea, each with area less than a million ha.

Table 2.10: LAND AREA ('000 HA) AND YIELD (KG/HA) BY REGION  
FOR SELECTED AGRICULTURAL PRODUCTS, 1971 AND 1980 OR 1981

Product Area/Yield	Year	Java	Sumatra	Kalimantan	Sulawesi	E.Islands	Indonesia /a
<u>Food Crops</u>							
<u>Wet Land Paddy</u>							
Area	1971	4,050	1,396	470	603	373	6,893
	1981	4,779	1,670	596	702	444	8,191
Yield	1971	3,870	3,334	1,927	3,228	3,015	3,527
	1981	4,196	3,257	2,445	3,350	3,801	3,783
<u>Dry Land Paddy</u>							
Area	1971	366	588	239	125	114	1,432
	1981	266	426	253	109	136	1,191
Yield	1971	1,512	1,540	1,157	1,448	1,476	1,456
	1981	1,783	1,517	1,344	1,412	1,244	1,499
<u>Corn</u>							
Area	1971	1,858	129	15	343	282	2,627
	1981	2,008	124	21	458	345	2,955
Yield	1971	1,014	1,402	736	821	887	992
	1981	1,650	1,434	958	1,311	1,155	1,526
<u>Cassava</u>							
Area	1971	1,101	94	33	76	102	1,406
	1981	987	140	37	66	157	1,388
Yield	1971	7,334	9,644	8,806	7,061	7,883	7,601
	1981	9,763	10,319	8,383	8,790	8,444	9,586
<u>Estate Crops</u>							
<u>Rubber</u>							
<u>Smallholdings</u>							
Area	1971	50	1,349	411		2	1,812
	1980	27	1,470	609		1	2,107
Yield	1971	205	283	377			302
	1980	321	357	282		204	334
<u>Government Estates</u>							
Area	1971	101	119		2		221
	1980	77	107		1		190
Yield	1971	440	615		274		533
	1980	881	1,101		163		977
<u>Private Estates</u>							
Area	1971	94	207	3	2		307
	1980	63	170	5	3		238
Yield	1971	240	443	95	628	511	378
	1980	296	545	160	n.a.	342	470
<u>Coconut</u>							
<u>Smallholdings</u>							
Area	1971	626	454	104	435	252	1,871
	1980	812	709	197	533	371	2,622
Yield	1971	594	645	522	785	848	681
	1980	419	565	549	904	805	622
<u>Government Estates</u>							
Area	1971	6					6
	1980	14					14
Yield	1971	258					321
	1980	158	1,319				246
<u>Private Estates</u>							
Area	1971	3	3		3	2	11
	1980	5	7	1	25	4	43
Yield	1971	107	509		314	375	320
	1980	191	200	296	1,130	310	756

/a Totals may not exactly tally with sums of regional numbers because of rounding.

2.16 Fisheries: Total fish catch increased from 1.2 million tons in 1971 to 1.6 million tons in 1980. (Table 2.11). Java's share in the total catch was 28% in 1980, slightly lower than Sumatra's share of 31%. For the nation as a whole, the share of marine fish production improved from 66% in 1971 to 75% in 1980. Kalimantan's marine fish sector contributed only 49% to the total catch, an exception to the generally large share (ranging from 75% to 90%) of marine fish to total fish catch. There are a number of possibilities for fisheries development. First, the past growth rate of the fisheries sector for the whole country was rather low. It could be stimulated by export development. Second, in the case of Kalimantan, there is a fairly long coastline and it should be possible to increase its share in total output, especially by developing the marine fish sub-sector.

Table 2.11: REGIONAL DATA ON FISH PRODUCTION

Region	Regional shares (%)		Share of marine fisheries (%) in total regional production	
	1971	1980	1971	1980
Java	21.5	27.7	51.4	70.8
Sumatra	36.9	31.3	81.8	82.1
Kalimantan	20.7	15.9	36.7	49.3
Sulawesi	14.1	15.8	78.3	78.6
E. Islands	6.8	9.3	90.3	96.3
Indonesia: % Production (thousand tons)	100.0 1,227	100.0 1,647	66.0 810	74.5 1,227

2.17 Manufacturing Concentration in Java: The manufacturing GDP grew at double digit rates in most of the years during the 1970s. The sector is made up of the medium and large establishments (generally using some power and employing 20 or more workers), small scale establishments (those employing 5-19 workers) and household industries. Data for the first two types of establishments are considered here. In the total value added of the small, medium and large establishments, the small scale sector share was only 10% in 1979. In total employment the share of the small scale sector was almost

half./<sup>10</sup> About 73% of the large and medium sector value added was accounted for by four industry groups, namely food, beverage, tobacco; textiles and apparel; wood and wood products; and rubber and chemical products. In the small scale sector, the first three groups accounted for 74% of the total value added.

2.18 The regional distribution of manufacturing employment and value added is given in Tables 2.12 and 2.13. In regard to the large and medium establishments, Java's share in value added increased from 80% in 1971 to 85% in 1979. In terms of employment, Java's share increased from 85% to 87%. Such a high degree of spatial concentration is not found in the small-scale sector. In fact, the regional distribution of the small industry was very close to the regional population distribution./<sup>11</sup> The small industrial sector is oriented towards the regional markets, likely to utilize local talents and skills and is relatively more labor intensive. In regard to the important sub-sectors among the large and medium industries, Java's share increased between 1971 and 1979 in food, beverages and tobacco products, (92% share in 1979), textiles (98%) and all industries other than wood and related products and rubber and chemical products. Kalimantan's share in wood products increased from 16% in 1971 to 53% in 1979. In rubber products, Java and Sumatra maintained their shares at about 60% and 36% respectively.

2.19 Location Factors Favoring Java: In addition to the fact that Java accounts for a large proportion of total domestic demand, three sets of factors determine most industrial location decisions: transport costs, agglomeration economies and purely personal (entrepreneurial) preferences. All these have acted to favor the location of medium and large industries in Java, especially when the import substituting industries (e.g., food, beverage, tobacco, textiles) have become the key to industrial growth in the recent past. The two major ports of Java at Tanjung Priok and Surabaya facilitated imports of intermediate goods, machinery and equipment; when industries are set up one after the other, agglomeration economies caught up; and with a strong central government decision-making apparatus in Jakarta, entrepreneurs increasingly preferred Java.

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<sup>10</sup> In 1979, employment in the small scale establishments was 830,000. It was 874,000 in the medium and large establishments. Value added was Rp 186 billion and Rp 1,661 billion respectively.

<sup>11</sup> The exception is the small scale textile industry which has 93.5% of value added in Java (Table 2.13). This sub-sector includes the export oriented batik industry predominantly located in Central Java and Yogyakarta.

Table 2.12: REGIONAL DISTRIBUTION OF MANUFACTURING  
EMPLOYMENT AND VALUE ADDED

Item/Year		Java	Sumatra	Kalimantan	Sulawesi	E.Islands	Indonesia
<u>Large and Medium Establishments:</u>							
Percentage of value added	1971	80.3	12.6	1.3	1.0	0.8	100.0
	1974	82.6	12.1	2.7	1.9	0.6	100.0
	1979	85.5	10.4	3.0	0.7	0.3	100.0
Percentage of employment	1971	85.1	10.6	1.4	1.5	1.4	100.0
	1974	86.5	8.3	2.2	1.3	1.8	100.0
	1979	86.6	8.4	2.7	1.1	1.2	100.0
<u>Small Scale Establishments:</u>							
Percent of value added	1979	65.3	17.9	4.5	7.7	4.6	100.0
Percent of employment	1979	64.7	16.0	2.5	10.6	6.2	100.0
<u>For Reference:</u>							
Percent of population	1980	61.9	19.0	4.6	7.0	7.5	100.0

Source: Esmara, op.cit., and Annex 1.

Table 2.13: REGIONAL DISTRIBUTION OF MANUFACTURING VALUE-ADDED.  
BY SUB-SECTORS, 1971 AND 1979

Sub-sector	Year	Java	Sumatra	Kalimantan	Sulawesi	E.Islands	Indonesia
<u>Large and Medium Establishments</u>							
Food, beverage	1971	86.1	11.6	0.3	1.0	1.0	100.0
Tobacco	1979	91.8	6.8	0.1	0.7	0.6	100.0
Textiles	1971	95.2	3.1	-	0.3	1.4	100.0
	1979	98.4	1.1	-	0.2	0.3	100.0
Wood and products	1971	42.4	33.3	16.2	2.5	5.6	100.0
	1979	24.3	20.5	53.3	0.9	1.0	100.0
Rubber, chemical products, etc.	1971	60.3	35.7	3.8	0.2	-	100.0
	1979	58.0	35.9	6.0	0.1	-	100.0
Others	1971	84.7	11.0	0.4	3.6	0.3	100.0
	1979	94.7	3.8	0.2	1.1	0.2	100.0
<u>Small Scale Establishments (1979)</u>							
Food, beverage, tobacco		57.6	21.7	5.4	10.2	5.1	100.0
Textiles		93.5	3.8	0.1	1.2	1.4	100.0
Wood and products		53.8	17.9	10.6	10.7	7.0	100.0
Others		69.5	19.2	1.9	5.4	4.0	100.0

Source: Esmara, op.cit., and Annex 1.

Differential Trade Linkages

2.20 Linkages with Rest of Indonesia and Rest of the World: The five major regions differ in regard to the relative importance of domestic and foreign trade. Data on the ratios of exports to GDP by region for the year 1979 were broken down into domestic and foreign components in Table 2.14. For products of Java and Sulawesi, export demand from other regions was just as important as export demand from abroad. For the products of Sumatra and Kalimantan the demand was mostly from exports. They export oil, gas, rubber and timber to rest of the world and these are products based on resource endowments typical to Sumatra and Kalimantan. In the case of these two regions, the prospects for widening the export base should be investigated. In the case of Java which specializes (in a relative sense) in food crop agriculture and consumer goods manufacturing, the scope for improving productive efficiency, establishing comparative advantage and developing exports should be addressed in policy-oriented sub-sector studies.

Table 2.14: REGIONAL GDP AND REGIONAL TRADE, 1979

Region	GDP Rp billion	Exports (Rp Bln)		Percentage of exports in GDP	
		To other regions	To abroad	To other regions	To abroad
Java	14,618	1,263	1,188	8.6	8.1
Sumatra	9,734	730	5,070	7.5	52.1
Kalimantan	3,181	164	2,829	5.2	88.9
Sulawesi	1,633	154	145	9.4	8.9
E. Islands	1,858	111	480	6.0	25.8
<u>Indonesia</u>	<u>31,024</u>	<u>2,422</u>	<u>9,712</u>	<u>7.8</u>	<u>31.3</u>

2.21 Inter-Island Trade: At the outset it should be noted that the data on inter-island trade are rather weak, and are based on statistical reports from the various regional ports. Summary data in terms of value were published along with trade data on volume for important commodities. Value data, however, were discontinued since the early 1970s. Bank staff have made some rough and ready estimates of values for the year 1979 so that a comparison of trade flows is facilitated with some of the earlier years. The 1969 - 1979 comparison shows that total inter-island flows increased from Rp 185 billion in 1969 to Rp 3,645 billion in 1979. There is no easy way of checking the accuracy of these numbers. However, the implied trend of a very high growth during 1969-79 must be true, given the compendia of other economic indicators that show superior economic performance in the 1970s. Moreover, when total GDP of the nation in 1979 was more than 15 times the level in 1969, the multiplication of inter-island trade by 20 times during that period could not be unrealistic.

2.22 Java's exports in total trade fell from 50% in 1969 to 35% in 1979 (Table 2.15). Imports into Java were maintained at 30% of total trade. Intra-Outer Islands trade and intra-Java trade picked up in relation to total trade. A numerically large and important change was the decline in percentage of total exports from Java to Sumatra (from 32% to 19% of total trade). Some of the numerically not large, yet important, changes were the increasing trade linkages between Kalimantan and Sulawesi, Kalimantan and Eastern Islands and Sulawesi and Eastern Islands (due in part to their physical proximity and hence relatively lower inter-island transport costs). Infrastructure development (i.e., development of ports as well as roads and railways) and institutional improvements (i.e., administrative and managerial improvements to maximize operational efficiency) could greatly facilitate the growth of inter-island trade linkages. These aspects were discussed in detail in the Integrated Sea Transport Study of 1980 conducted by the Netherlands Maritime Institute as part of a Bank financed project. A comprehensive review of the road sector was also recently undertaken as part of another Bank project. The follow-up work on these studies should be aimed at integrated development of transport infrastructure which could promote inter-island trade linkages and intra-island specialization based on comparative advantage.

#### Government Economic Policies and Spatial Development: The Case of Industry

2.23 Foreign Trade Policy and Industrial Location: Foreign trade policy strongly affects the pattern of industrial location. It affects the relative profitability of industries located in different geographic areas.<sup>/12</sup> High levels of protection against imports both through high rates of import duties and quantitative import restrictions have resulted in the rapid growth of import substituting industries. Because many of them are heavily dependent directly or indirectly on imported inputs, they tend to be located in Java, especially near or in Jakarta. Since Java is the principal market for most consumer goods, there is probably some justification for industrial concentration on Java. However, because of the high levels of protection the rupiah has a higher value than would otherwise be the case. The higher value of the rupiah decreases the incentive to the private sector to increase the production of both primary commodities and manufactures for exports. In addition there are import duties on most imported intermediate inputs which also raise the cost of production of present and potential export goods.

2.24 The effective rates of protection (ERP) of exportable manufacturing sectors were mostly negative with the ERPs of only 4 out of 15 of them being positive, but still low.<sup>/13</sup> The principal exportable sectors were dried cassava and tapioca flour, rubber processing, and wood and cork products. These are mainly located in the Outer Islands and the trade regime did not

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<sup>/12</sup> Indonesian foreign trade policy and its effects on industrial development are discussed in the World Bank report, Indonesia: Selected Issues on Industrial Development and Trade Strategy, July 15, 1981, especially in Annex 2, The Foreign Trade Regime.

<sup>/13</sup> Ibid.

Table 2.15: INTER ISLAND TRADE FLOW MATRICES, 1969 AND 1979

From/To	Year	Java	Sumatra	Kalimantan	Sulawesi	E.Islands	Indonesia
Java	1969	0.2	31.8	8.1	5.7	4.2	50.0
	1979	7.4	19.2	6.3	4.5	4.6	42.0
Sumatra	1969	14.0	22.2	3.3	0.2	0.1	39.8
	1979	16.4	20.2	2.4	0.7	0.5	40.2
Kalimantan	1969	2.4	0.1	0.6	0.7	0.5	4.3
	1979	1.8	0.9	2.6	0.9	0.9	7.1
Sulawesi	1969	1.9	-	0.2	1.1	0.4	3.6
	1979	3.2	-	0.5	2.2	0.5	6.4
E. Islands	1969	1.6	-	-	0.1	0.6	2.3
	1979	2.7	0.1	0.2	0.1	1.2	4.3
Indonesia	1969	20.1	54.1	12.2	7.8	5.8	100.0
	1979	31.5	40.4	12.0	8.4	7.7	100.0

Basic data: See Annex 4.

Note: Java - Rest of Indonesia Summary Matrices:

		<u>To Java</u>	<u>To Outer Islands</u>
From Java	1969	0.2	49.8
	1979	7.4	34.6
From Outer Islands	1969	19.9	30.1
	1979	24.1	33.9

favor the development of these industries. This leads to a lagging industrial sector in the Outer Islands. However, the adverse effect is not only directly on the manufacturing process, but it also adversely affects the development of the raw material sectors themselves, i.e., the production of cassava, rubber,

palm kernels, tobacco, wood and a large number of less important primary products/14

2.25 Recent Import Regulations: From November 1982 to February 1983, the Government made the decision that several groups of goods could only be imported by importers designated by the Department of Trade./15 For some groups, the designated importers were the sole agents/brand name holders or firms recommended by them. For other groups only one or two importers were designated. The main effect of these regulations on the pattern of industrial location is likely to be hindering development of industries in one area relative to another if a factory operator using an imported intermediate input is unable to become a designated importer and there is only one or a few designated importers in his geographic area. In this case he will probably face higher costs of imported intermediate goods because either he has to purchase the imported goods from an importer from another region, or he will be in a weak bargaining position relative to the designated importers in his area. Especially in the case where there is only one designated importer in a geographic area but many factories are using the imported input, the designated importer will have a partial monopoly position confronting these factories. However, the Department of Trade and Cooperatives has stated in private that except where there are only 1 or 2 approved importers, factories using the intermediate inputs will be given a high priority to become approved importers. However, even if this is the case it does not solve the potential problem of factories too small to import for themselves to obtain these inputs from designated importers at competitive prices. This could adversely affect the small labor intensive industries. (In September 1983, a decree was issued permitting direct raw material imports by producers for own use as long as the goods were included in the mass list of production needs issued by the Investment Coordinating Board.)

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/14 It is not as if the protective tariffs do not affect Java. The export development of the labor intensive textile, garment, leather products, electronic assembly, and sports and athletic goods industries, which for the most part are located on Java where labor costs are lower, is also somewhat hindered by these policies. However, the export certificate system started to November 1978 partly offsets the adverse effects of the protection system. Under this system, for every dollar of goods exported, producers are given a payment based on the estimated average amount of imported inputs required to produce goods in the industry. This incentive, while helping the import dependent industries of Java does not seem to help the exporters of the Outer Islands.

/15 These groups are: (1) electronic and electrical products; (2) chemical products; (3) parts for motor vehicles; (4) metal products; (5) equipment, machinery and parts; (6) textile products; (7) large equipment and parts; (8) certain types of agricultural products, (9) rerolling scrap and melting scrap; (10) foods, drinks and fruits; (11) sheet and plate steel; and (12) goods made from imported iron or steel.

2.26 The Effect of the 1982/83 Investment Coordinating Board Guidelines on Industrial Location: The Investment Coordinating Board (BKPM) guidelines on investment in selected geographic areas can potentially adversely affect industrial location decisions. In the last six years the number of manufacturing investment fields subject to location guidelines expanded. In the 1977 list of investment priorities 21 of 671 fields of industrial investment (manufactured items) were subject to location guidelines. A slightly larger number were closed to foreign investment. In the 1982/83 list of investment priorities 250 of 1,877 industrial items were subject to location guidelines while another 75 items were closed to all investments.

2.27 Guidelines which Recommend Specific Sites or Provinces: One category of guidelines is where the Government has nominated a specific site for investments. An example is directing manufacture of aluminium rods to sites near the Asahan project in North Sumatra. Such guidelines are unlikely to discourage investment or reduce productivity and competitiveness since the new industries will benefit from proximity to inputs and from earlier investments in infrastructure. A second category of guidelines requires investment in certain fields of manufacturing to be located in specific provinces or groups of provinces. For example, vegetables and fruit packing and processing is directed to Sulawesi and fish packing and preserving to provinces in Eastern Indonesia. The intent of the Government with these guidelines would seem to be to dissuade the investor from making investment choices that would lead to a widening disparity in the size of the manufacturing sector among regions, and prevent investment decisions that would lead to underutilization of plant in other provinces. Such guidelines could well discourage investment or lead to inefficiency if economies of scale cannot be realized from production for limited markets.

2.28 Guidelines Excluding Investment in Some Provinces or Regions: There are 122 industrial fields/manufacturing items which have regulations discouraging the investor from locating a factory in certain provinces. Seventeen items are prohibited from Jakarta. Sixteen categories are prohibited from JABOTABEK (an urban complex comprising Jakarta, Bogor, Tangerang and Bekasi). Three items are prohibited from Jakarta and West Java provinces. Seventy four items are restricted to locations outside Java. Twelve investment fields are prohibited in Java and some other province or provinces. All of these guidelines on investment location could discourage investments in some subsectors in all or some parts of the island of Java.

2.29 The above discussion implies that a review of Government policies be undertaken to study their adverse effects, if any, on industrial location and regional development, and to identify the policies that require modification or elimination.

CHAPTER 3

SPATIAL VARIATIONS IN SOCIAL DEVELOPMENT

Recent Trends at the National Level

3.01 Education: The number of government primary schools increased by 65% during the period 1970-80, junior high schools by 62% and senior high schools by 53%. In 1974/75, 5.2% of the government development budget was directed to the education sector. This went up to 10.5% by 1981/82. As a proportion of GDP also, education expenditure was on an upward trend, reaching a level of 2.1% in 1981/82. It is expected that it will reach an average of 3% of GDP or more during the period of the fourth five year plan (Repelita IV covering 1984/85 to 1988/89)./1

3.02 Health: Expansion of infrastructure at a rapid rate occurred in regard to health and sanitation. For instance, the number of public health centers increased from 2,679 in 1973/74 to 4,753 in 1980/81, an increase of 72.4% in just seven years. In 1974/75, of the total government development expenditure of Rp 966 billion, 2.3% was spent on health services and 0.6% on housing and water supply. By 1981/82, of the expenditure of Rp 6,940 billion, 4.1% went to health sector and 2.4% to housing and water supply sectors. Despite this increase in health development expenditure relative to total development spending, in the total national budget (routine and development), health expenditure (budget of the department of health) stagnated over the past several years at 1.9% of the total./2 A consequence of this was, whereas development expenditures increased rapidly, routine expenses did not. This naturally led to less maintenance works and less soft-ware support which could affect the level of service and productivity of health infrastructure.

3.03 Water Supply: In regard to water supply and sanitation, the situation in Indonesia appears least comforting. In the 1970's, mostly the urban areas received attention, especially cities with 100,000 or more people. Projects were undertaken in 38 such cities. Urban water supply production capacity increased from 9,000 liters per second in the early seventies to over 21,000 liters per second in 1980. A large part of the total capacity (25,456 liters per second in 1980) was thus mostly in urban areas only. For the

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/1 See World Bank, Country Economic Memorandum on Indonesia, 1982, p.123. Educational expenditure as a proportion of GNP in the late 70's was 4% in South Korea, 5.2% in Malaysia, 3.2% in The Philippines and 3.3% in Thailand.

/2 World Bank, Indonesia: Health Sector Review (draft) 1982. It is also useful to note that in Indonesia health expenditures amounted to less than 3% of GDP compared to over 6% in most of the industrialized countries and around 4% in middle-income countries. In general about 1/3 of health costs were borne by governments.

country as a whole, only 7% of the households in 1980 had access to piped water for drinking, and 4% for bathing. Only 8.9% of the households had a private toilet while 26% had a private bath.

3.04 Family Planning: The official family planning program in Indonesia was launched in 1969/70, the first year of the First Five Year Plan. From plan to plan, the program coverage expanded. The program acceptors increased from 53,000 new acceptors in 1969/70 to over 2 million in 1981/82. The program budget in 1980/81 amounted to Rp 9.2 billion. The target of the national family planning program is to reduce the birth rate from a level of over 40 in 1969/70 to a level of 22 by 1990.

#### Education Sector: Spatial Differences

3.05 Literacy: Since the adoption of Bahasa Indonesia as the national language in 1928, more than half a century has gone by and practically all Indonesians living today have been exposed to the national language one way or another. Most provinces have literacy rates above 65% of the population 10 years and over (Table 3.1). The exceptions are Irian Jaya (52%), NTB (55%), West Kalimantan (58.2%), South Sulawesi (62%), Bali (62.2%) and East Java (63.1%).

3.06 School Participation: In the Indonesian education system, children join the primary school mostly at age 7 and study for 6 years. Then comes the three years of education in the junior high school, another three in the senior high school and then five or more years at the academies and universities. School participation rates from the 1971 and 1980 censuses are given in Table 3.1. The following are some of the principal trends. In the primary school age group, the participation rates in each of the provinces of Java and Sumatra have increased from 60% and above in 1971 to 80% and above in 1980. The same can be stated about the other regions in general with the significant exceptions of Irian Jaya and West Kalimantan with primary school participation rates of 67% in 1980. The province of NTB also has a low participation rate (73%), though not as low as in West Kalimantan. The school participation rates in the age groups 13-15, 16-18 and 19-24 were consistently higher in 1980 than in 1971 in all provinces, with few exceptions. There were, of course, fairly wide variations across provinces.

3.07 Progress of Primary Education: Rural-Urban Differentials: A good way of describing progress in the context of the rapidly expanding primary education system is to look at the youth in the post-primary age group and see how many have and how many have not completed the primary level. The data are given in Table 3.2. The most striking feature is the urban-rural differentials rather than the regional differentials. In the rural areas of West Java, Central Java and East Java, over 40% of the youth in the age group 15-19 have not completed primary education, as against about 29% in the urban areas. A similar pattern is observed in the provinces of Sumatra, except that there are provinces such as Lampung, South Sumatra and Riau where over 50% of the 15-19 population have not completed primary education. These percentages were also high in rural West Kalimantan (61% for males and 69% for females) and rural East Kalimantan (52% for males and 57% for females). In the case of

Table 3.1: LITERACY AND EDUCATION: 1971 AND 1980 /a

Province	Literacy among population 10+		Percent of specified age group in educational institutions							
	% 1971	% 1980	Of 7-12 years		Of 13-15 years		Of 16-18 years		Of 19-24 years	
			1971	1980	1971	1980	1971	1980	1971	1980
DKI Jakarta	79.2	88.2	67.0	91.4	56.0	77.1	30.6	46.3	14.4	14.9
West Java	64.8	74.9	55.6	82.4	36.5	54.3	15.3	24.7	4.8	6.4
Central Java	55.8	66.4	57.9	85.1	39.3	56.5	19.4	27.2	7.4	7.4
D.I. Yogyakarta	54.5	69.5	66.8	91.6	57.9	79.9	40.2	55.9	23.3	26.4
East Java	52.8	63.1	60.8	84.6	43.5	57.8	20.9	28.3	7.5	7.5
D.I. Aceh	68.0	74.5	68.1	86.2	59.6	68.6	27.2	38.6	8.4	11.5
North Sumatra	76.5	84.3	68.1	87.3	51.0	67.9	26.1	38.2	9.4	9.2
West Sumatra	75.5	81.8	67.9	88.8	49.4	70.6	29.9	43.8	12.3	12.8
Riau	66.1	77.3	51.1	78.2	40.2	63.5	15.8	31.8	4.6	7.3
Jambi	69.0	75.2	59.0	79.0	42.0	57.3	17.2	26.2	5.1	6.5
South Sumatra	74.3	81.4	61.9	83.1	46.6	60.7	20.5	29.6	19.8	7.1
Bengkulu	70.0	74.4	64.3	82.4	54.2	59.4	24.3	29.3	7.2	7.6
Lampung	68.8	76.6	59.2	80.6	40.3	56.8	15.8	23.3	4.3	5.2
West Kalimantan	47.5	58.2	43.6	66.9	40.9	58.8	16.2	28.6	3.1	6.5
Central Kalimantan	73.2	78.9	65.2	82.6	57.0	66.4	22.6	32.1	6.3	7.8
South Kalimantan	70.1	77.5	67.9	85.2	47.9	47.7	21.7	31.1	8.4	8.7
East Kalimantan	62.0	75.9	58.5	78.9	47.3	65.8	16.3	35.1	5.7	8.5
North Sulawesi	87.4	91.0	78.0	88.9	58.7	67.9	26.6	36.7	7.1	9.2
Central Sulawesi	69.3	82.1	72.6	86.4	64.4	66.1	27.2	31.6	6.1	6.6
South Sulawesi	51.2	62.0	55.9	78.8	45.5	61.0	24.6	36.3	9.5	11.7
South East Sulawesi	52.6	68.5	59.2	81.1	63.5	63.7	30.5	35.6	6.4	7.9
Bali	47.6	62.2	56.7	84.5	35.1	65.7	17.0	34.6	5.7	9.5
West Nusa Tenggara	38.1	55.0	42.3	72.5	32.4	43.0	16.9	29.6	4.7	7.6
East Nusa Tenggara	58.1	65.0	60.5	76.4	61.7	69.7	28.0	37.9	7.5	12.0
Maluku	77.0	83.0	73.4	85.7	69.1	73.5	34.5	38.5	8.7	9.2
Irian Jaya	/b	52.0	/b	66.9	/b	57.7	/b	33.5	/b	8.2

/a The census participation rates by age do not correspond to precise levels of education (primary, secondary, etc.). Accordingly, the data in this table may not match with the data of the Department of Education on the enrollment rates by level of education.

/b Comparable data not available.

Sources: 1971 and 1980 Censuses.

Table 3.2: EDUCATIONAL PROGRESS INDICATORS, 1971-80

Province	Percentage of persons who have not completed primary school							
	Urban				Rural			
	Males 15-19 1971	15-19 1980	Females 15-19 1971	15-19 1980	Males 15-19 1971	15-19 1980	Females 15-19 1971	15-19 1980
DKI Jakarta	32.1	19.9	43.1	30.6	-	-	-	-
West Java	24.4	21.0	29.5	26.9	54.5	43.3	60.6	50.0
Central Java	22.2	19.6	32.8	29.1	57.5	44.4	70.5	55.7
D.I. Yogyakarta	13.0	12.2	20.3	15.1	33.2	22.6	49.1	30.0
East Java	24.9	18.1	35.8	26.9	55.7	42.5	68.5	49.8
D.I. Aceh	21.3	11.4	21.3	12.7	47.1	36.0	54.6	37.5
North Sumatra	19.3	17.0	20.5	19.7	43.7	39.7	53.8	48.2
West Sumatra	25.2	15.1	21.1	14.3	49.3	43.5	47.1	42.1
Riau	29.4	17.1	34.0	23.9	68.1	50.9	76.2	57.2
Jambi	45.0	16.4	55.1	27.2	58.9	47.4	73.9	57.0
South Sumatra	37.4	22.9	45.7	26.4	61.8	51.8	70.9	60.4
Bengkulu	25.5	18.0	27.6	18.6	64.7	46.7	71.9	55.6
Lampung	36.6	24.6	43.4	30.9	60.6	58.3	70.2	64.9
West Kalimantan	54.3	26.4	59.2	29.5	69.3	61.4	79.7	68.8
Central Kalimantan	27.2	6.8	28.6	10.2	53.5	42.7	58.4	49.1
South Kalimantan	38.4	22.3	46.1	30.1	51.8	46.3	57.7	56.8
East Kalimantan	33.6	18.1	44.0	25.9	64.3	52.2	68.3	57.2
North Sulawesi	32.0	21.5	27.8	21.5	54.0	48.2	47.7	40.1
Central Sulawesi	12.5	11.6	17.2	11.2	44.8	40.4	49.3	44.2
South Sulawesi	27.2	17.7	32.7	21.8	53.2	41.5	59.5	43.9
South East Sulawesi	24.9	13.8	35.4	17.4	48.9	36.2	63.5	40.0
Bali	21.4	15.0	36.7	23.6	47.4	32.2	72.5	48.3
West Nusa Tenggara	20.9	12.5	43.5	37.1	70.7	46.2	80.2	50.5
East Nusa Tenggara	22.4	12.5	32.3	13.5	50.2	42.4	54.2	44.3
Maluku	16.2	11.3	21.3	10.6	45.2	34.9	52.9	42.6
Irian Jaya	24.7	23.6	32.9	30.5	-	44.1	-	51.6

Sources: 1971 and 1980 Censuses.

Sulawesi and the Eastern Islands, the patterns were similar to those observed in Java and Sumatra with over 40% of the 15-19 rural population not completing primary education. Such large differentials as noted here between regions and between rural and urban areas also prevail in regard to the secondary education completion rates. The analysis of these differentials is presently undertaken by the Bank./<sup>3</sup>

<sup>3</sup> World Bank, "Secondary Education in Indonesia: Issues and Programs for Action" (forthcoming).

Health Sector: Input and Output by Province

3.08 Input: The Infrastructure: There were over 4,500 public health centers at the end of 1980. Each health center had on the average 31,000 persons to serve (Table 3.3). This is a major improvement compared to the average of about 50,000 people per health center in 1972.<sup>/4</sup> The regional differences in average populations served by health centers are striking (Table 3.3). Java's provinces have, on the average, 41,000 persons per health center compared to the national average of 31,000 persons. Similar patterns prevail in regard to population per subcenter. All the provinces in Java except Yogyakarta and the province of Lampung in Sumatra have over 30,000 persons per subcenter, much higher than 20,000 persons or less which is the case with other provinces.

3.09 While it is true that some of the provinces, especially those in Java, have a larger average population to be reached by the health centers, there are, in most provinces, other balancing factors such as relatively well-developed public and private hospitals. Jakarta, North Sumatra, East Kalimantan, North Sulawesi and Irian Jaya have more than a dozen hospital beds per 10,000 population. Within the major islands, there are large inter-provincial differentials in per capita bed strength. The private sector is quite active in some of the provinces. In Jakarta, Yogyakarta, Lampung, North Sulawesi and East Nusa Tenggara, the private sector share was more than 40% of the total bed strength. The government hospitals in Java and Sumatra are of relatively large size with 50% more average bed strength than in Kalimantan, Sulawesi and Eastern Islands. In contrast, the private hospitals in Java and Sumatra tend to be of relatively smaller size than in other regions. The large demand for hospital accommodation in Java and Sumatra must be encouraging the growth of a number of small private hospitals and nursing homes.

3.10 Drinking Water and Sanitation: Only 7% of the households in 1980 had access to piped water for drinking and 4.1 percent could boast of piped water for bathing. Only 9% of the households had a private toilet. A relatively large 26% had a private bath.<sup>/5</sup> The regional differentials are illustrated in Table 3.4. Because of the tremendous differences in access between urban and rural areas, the provinces with large urban areas have better access. Jakarta, East Java, North Sumatra, South Sumatra, South and East Kalimantan, North Sulawesi, and Bali come under that category. East Nusa Tenggara, Maluku and Irian Jaya also have relatively high proportions of

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<sup>/4</sup> This improvement, however, loses part of its significance when it is recognized that in 1972, the average morbidity (sickness) rate was only 5% whereas it was higher in 1980 at 11.5%. The data were from Department of Health, Indonesia, Household Health Survey Reports for 1972 and 1980.

<sup>/5</sup> The large difference between 9% with private toilet and 26% with private bath must be interpreted as the relative ease with which one can construct a make-do private kamar mandi (bathroom).

Table 3.3: POPULATION SERVED BY HEALTH CENTERS  
AND OTHER HEALTH RELATED DATA

Province	Population (000) 1980/81		Hospital beds per 10,000 people 1980	Percent of total beds in private sector 1980
	Per health center	Per subcenter		
DKI Jakarta	56	39	20	48.4
West Java	48	31	4	23.9
Central Java	36	55	5	25.7
D.I. Yogyakarta	32	14	9	55.2
East Java	38	31	5	25.0
<u>Total Java</u>	<u>41</u>	<u>35</u>	<u>6</u>	<u>31.8</u>
D.I. Aceh	16	12	4	4.3
North Sumatra	37	9	14	26.8
West Sumatra	28	8	8	29.2
Riau	24	12	5	26.2
Jambi	24	11	3	21.3
South Sumatra	36	12	8	10.9
Bengkulu	15	6	3	/a
Lampung	30	32	3	43.3
<u>Total Sumatra</u>	<u>28</u>	<u>11</u>	<u>8</u>	<u>23.8</u>
West Kalimantan	18	10	7	19.0
Central Kalimantan	10	6	4	/a
South Kalimantan	16	8	8	20.1
East Kalimantan	10	10	14	16.8
<u>Total Kalimantan</u>	<u>14</u>	<u>8</u>	<u>8</u>	<u>17.1</u>
North Sulawesi	21	8	14	45.4
Central Sulawesi	14	9	4	3.9
South Sulawesi	24	11	9	26.5
South East Sulawesi	19	17	5	16.7
<u>Total Sulawesi</u>	<u>21</u>	<u>10</u>	<u>9</u>	<u>30.8</u>
Bali	38	7	7	/a
West Nusa Tenggara	34	17	3	9.3
East Nusa Tenggara	20	7	5	49.8
Maluku	16	10	9	26.9
Irian Jaya	8	4	13	4.3
<u>Total E. Islands</u>	<u>20</u>	<u>8</u>	<u>6</u>	<u>17.8</u>
<u>Total INDONESIA</u>	<u>31</u>	<u>18</u>	<u>7</u>	<u>28.1</u>

Source: Department of Health.

Table 3.4: DRINKING WATER AND TOILET FACILITIES, 1980

	Percent of households with access to piped water for drinking		Percent of households with private toilet with septic tank	
	Urban	Rural	Urban	Rural
DKI Jakarta	30.0	5.4	41.8	22.6
West Java	13.2	1.6	18.7	4.0
Central Java	23.4	1.6	23.7	2.8
D.I. Yogyakarta	11.3	1.2	30.3	6.5
East Java	35.8	2.0	27.7	3.5
D.I. Aceh	23.0	0.9	34.6	5.0
North Sumatra	35.2	3.9	37.1	3.5
West Sumatra	22.1	2.0	18.9	2.1
Riau	18.5	1.1	36.6	4.3
Jambi	6.0	1.4	24.5	4.1
South Sumatra	37.7	2.0	32.8	5.1
Bengkulu	10.4	2.1	12.4	4.6
Lampung	3.5	1.2	25.2	4.7
West Kalimantan	18.4	0.2.	23.2	2.4
Central Kalimantan	2.7	0.1	23.2	1.3
South Kalimantan	49.1	2.7	18.1	3.5
East Kalimantan	22.6	1.1	38.1	4.4
North Sulawesi	31.3	4.5	32.4	10.5
Central Sulawesi	28.6	1.7	27.2	5.9
South Sulawesi	31.3	1.2	34.6	3.7
South East Sulawesi	15.5	1.7	23.4	2.8
Bali	42.8	7.7	37.2	7.7
West Nusa Tenggara	6.7	0.1	15.3	1.3
East Nusa Tenggara	57.6	10.1	32.5	3.1
Maluku	52.6	5.4	37.5	5.7
Irian Jaya	48.0	1.5	27.7	3.2
<u>Total Indonesia</u>	<u>26.4</u>	<u>2.1</u>	<u>28.9</u>	<u>3.8</u>

Source: 1980 Census.

households with access to piped water. Those with insignificant access to piped drinking water are Lampung, Central Kalimantan and West Nusa Tenggara. The patterns described with reference to piped water broadly hold with respect to private toilets (with septic tanks) also, since the availability of sufficient piped water could naturally induce people to go in for private toilet facilities. The urban-rural differentials are too striking to be ignored.

However, urban needs may be more urgent and may need earlier attention. The issue should be tackled in the context of formulating an overall long-term strategy for developing drinking water facilities.

3.11 Health and Sanitation Sector Output: Infant Mortality Reduction:

It is now very well recognized by policy makers that health centers, hospital beds, piped water, and septic latrines are not the ends, but are important means to achieve "better health for all" that literally begins with healthy babies, an index of the achievement of which is a low infant mortality rate (IMR)./6

3.12 Over the 1970s, IMR declined by 25% in Indonesia (Table 3.5), an achievement which compares favorably to many other developing countries: low income countries as a group experienced a 42% decline over two decades; and in the group of middle income countries IMR declined by 36% in two decades./7 Provinces which had high IMR levels in late 1960s and where the decline during the 1970s was moderate were East Java, West Sumatra, West Kalimantan, South Kalimantan, Central Sulawesi, West Nusa Tenggara (distinctive for an increase in IMR), and Maluku. The case of West Nusa Tenggara where the estimated IMR implies that almost 1 out of every 5 babies dies before the first birthday needs special attention.

3.13 A Few Correlates of Infant Mortality: The discussion so far highlighted the spatial variations in both inputs and output (IMR). Some simple correlation coefficients between them are presented in Table 3.6. Many of the infrastructure and access indicators have statistically significant correlation with IMR. This is good news to health, sanitation and water supply planners. However, the bad news is that infant mortality is not highly responsive to any one single indicator, and its reduction requires a simultaneous action on many fronts.

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/6 Indonesia does not have a good compulsory vital registration system. Hence IMR estimates are not available on an annual basis. However, from the census data on children ever born and children surviving by age of mother, indirect IMR estimates can be derived (see Table 3.5). The only problem is the estimated IMRs will be sensitive to reporting errors on children born, children surviving, mother's age etc. Also it is difficult to exactly pinpoint the year to which the estimated IMRs refer. For instance, the IMR computed with 1980 census data might refer to 1976-80 and not exactly 1978 as indicated in Table 3.5. These limitations impose a reduction in the overall accuracy of the IMR estimates and trends.

/7 See World Bank, World Development Report, 1982. It is important to note that the Indonesian IMR of around 105 in late 1970's is on the high side compared to the level of 80 for the middle income countries as a group.

Table 3.5: ESTIMATES OF INFANT MORTALITY 1969 AND 1978

Province	Based on 1971 Census (1969)	Based on 1980 Census (1978)	Percentage decline
DKI Jakarta	125	81	35.2
West Java	159	131	17.6
Central Java	147	108	26.5
D.I. Yogyakarta	147	63	57.1
East Java	133	113	15.0
<u>Total Java</u>	<u>138</u>	<u>104</u>	<u>32.7</u>
D.I. Aceh	130	91	30.0
North Sumatra	112	89	20.5
West Sumatra	142	122	14.1
Riau	116	113	2.6
Jambi	157	120	23.6
South Sumatra	153	98	35.9
Bengkulu	148	107	27.7
Lampung	145	98	32.4
<u>Total Sumatra</u>	<u>139</u>	<u>93</u>	<u>49.5</u>
West Kalimantan	138	117	15.2
Central Kalimantan	129	100	22.5
South Kalimantan	142	122	14.1
East Kalimantan	118	100	15.3
<u>Total Kalimantan</u>	<u>139</u>	<u>106</u>	<u>23.7</u>
North Sulawesi	112	96	14.3
Central Sulawesi	136	129	5.1
South Sulawesi	154	108	29.9
South East Sulawesi	160	117	26.9
<u>Total Sulawesi</u>	<u>149</u>	<u>108</u>	<u>38.0</u>
Bali	132	89	32.6
West Nusa Tenggara	170	188	(+10.6)
East Nusa Tenggara	136	125	8.1
Maluku	141	125	11.3
Irian Jaya	n.a.	125	n.a.
<u>Total E. Islands</u>	<u>164</u>	<u>133</u>	<u>23.3</u>
<u>Total Indonesia</u>	<u>140</u>	<u>105</u>	<u>25.0</u>

Source: Central Bureau of Statistics estimates modified by the Bank staff.  
See Annex 2.

Table 3.6: SIMPLE CORRELATION COEFFICIENTS BETWEEN PROVINCIAL INFANT MORTALITY RATES AND HEALTH/SANITATION/WATER SUPPLY INDICATORS

Health/Sanitation/Water Supply Indicator	Correlation Coefficients	
	For Linear Relationship	For Log-Linear Relationship
Population per health center	-0.148	-0.184
Hospital beds per 10,000 people	-0.415 /a	-0.428 /a
Private sector share in hospital beds	-0.311	-0.045
Routine Health expenditure per capita	-0.392 /a	-0.449 /a
Percent of households with piped water for drinking	-0.303	-0.237
Percent of households with piped water for bathing	-0.300	-0.365
Percent of households with private toilet	-0.478 /a	-0.602 /a
Percent of households with private bath	-0.556 /a	-0.531 /a

/a Statistically significant at the 5% or 10% level.

3.14 Nutritional Deficiencies: There are four major prevailing nutritional problems: protein-caloric malnutrition, vitamin A deficiency, iodine deficiency and nutritional anemia. One national survey on malnutrition in pre-school children was conducted in 1976-77. The regional data showed that 23% of the children were malnourished in West Java, 28% in the rest of Java, 20% in Sumatra, 27% in Kalimantan, 18% in Sulawesi and 21% in Bali, West and East Nusa Tenggara combined. Data on anemia and iodine deficiency were scarce. On Vitamin A deficiency, an effort was made in 1977 to obtain information on its prevalence among children./8 More than 60,000 children developed gross corneal involvement every year and at least a third of them were left permanently blind or visually impaired in both eyes. The incidence of disease was especially high in 15 provinces (listed in declining order of prevalence): Aceh, West Nusa Tenggara, Bengkulu, West Sumatra, South Sumatra, West Java, Central Java, Central Kalimantan, Bali, South Sulawesi, Maluku, South Kalimantan, West Kalimantan, North Sumatra and Southeast Sulawesi.

3.15 The Family Planning Program: The official family planning program in Indonesia under the charge of the Family Planning Coordination Board (BKKBN) was launched in 1969/70, the first year of the First Five Year Plan.

/8 Indonesia: Nutritional Blindness Prevention Project, Helen Keller International and the Government of Indonesia, 1980.

The target was to reduce the birth rate from its 1969/70 level of over 40 to a level of 22 by 1990. The program was implemented in three phases covering the different provinces, as indicated below.

<u>Year of starting</u>	<u>Provinces covered</u>
1969/70	<u>Group I:</u> The six provinces in Java-Bali.
1974/75	<u>Group II:</u> Aceh, North, West and South Sumatra, Lampung, West and South Kalimantan, North and South Sulawesi and West Nusa Tenggara.
1978/79	<u>Group III:</u> All other provinces.

Commendable results accrued largely due to the program. The total fertility rate declined by 18% during the 1970s (Table 3.7). Large regional fertility differentials still persist, with Sulawesi and parts of Eastern islands having relatively high fertility rates, and relatively less significant rates of decline in the past. This requires further study to identify the causes and initiate feasible action.

#### Social Sector Targets and Spatial Considerations

3.16 The spatial dimension should be an important consideration in formulating and implementing social development programs since the government is the principal investor in the social sector and since humanitarian considerations call for narrowing, as far as possible, the spatial differentials in social development. The spatial implications of translating national goals are briefly illustrated below.

3.17 Educational Targets: The Government's primary school enrollment projections for the nation as a whole are given in Table 3.8. The school participation rate is expected to increase from 88% in 1980 to 100% by the end of the Fourth Five Year Plan (Repelita IV). In the 8 years from 1980/81 to 1988/89, the number of teachers has to increase at an average annual rate of 3.4%, while the student population practically ceases to increase during the period of Repelita IV, largely because of the expectation that few from the 12+ age group will be in primary schools and the impact of the family planning program will be felt. What are the regional implications of the targets? If the participation rates were to be the same in all the principal regions, then the percent of students in each region in 1988/89 will be identical to the percent share of each region in the total 7-12 population. The regional population shares are shown in Table 3.9, along with the 1980/81 regional shares of schools, teachers and pupils. During 1980/81 - 1988/89, the number of schools in Java and Sumatra have to grow relatively faster than in the other regions, in order to match the 1988/89 share of pupils. Sumatra and Sulawesi have to expand the teacher population at a rate larger than the other regions. Similarly, the differentials in the school participation rates noted

Table 3.7: TOTAL FERTILITY RATES, 1967-70 AND 1980  
BY PROVINCE, INDONESIA

Province	1967-70	1980	% decline in TFR
DKI Jakarta	5.1	4.2	17.6
West Java	5.9	4.6	22.0
Central Java	5.3	4.3	18.9
D.I. Yogyakarta	4.7	3.4	27.7
East Java	4.7	3.6	23.4
D.I. Aceh	6.2	4.9	21.0
North Sumatra	7.0	5.3	24.3
West Sumatra	6.1	4.9	19.7
Riau	5.8	5.1	12.1
Jambi	6.3	4.9	22.2
South Sumatra	6.3	5.2	17.5
Bengkulu	6.6	5.5	16.7
Lampung	6.3	5.2	17.5
West Kalimantan	6.1	5.4	11.5
Central Kalimantan	6.7	5.6	16.4
South Kalimantan	5.4	4.3	20.4
East Kalimantan	5.4	4.7	13.0
North Sulawesi	6.7	6.4	4.5
Central Sulawesi	6.4	6.1	4.7
South Sulawesi	5.6	5.4	3.6
South East Sulawesi	6.4	6.1	4.7
Bali	5.8	3.6	34.9
West Nusa Tenggara	6.5	5.8	10.7
East Nusa Tenggara	5.8	5.6	3.4
Maluku	6.7	6.5	3.0
Irian Jaya	7.1 <u>/a</u>	6.5	9.5
Indonesia	5.5	4.5	18.2

/a Figure for urban areas only.

Sources: 1967-70: Lee-Jay Cho, et. al. Estimates of Fertility and Mortality in Indonesia. Central Bureau of Statistics, Jakarta, January 1976; and estimates from the 1980 census of Population.

**Table 3.8: GOVERNMENT PROJECTIONS OF SCHOOL POPULATION AND RELATED INDICES, 1980/81 - 1988/89**

Item/Indicator		Base year 1980/1981	Repelita IV	
			First year 1984/85	Last year 1988/89
<u>Primary Level</u>				
Population aged 7-12	('000)	24,598	26,405	27,732
Participation rate	(%)	88.2	96.4	100.0
Gross enrollment rate	(%)	104.3	110.9	108.7
No. of primary school pupils	(000)	25,664	29,284	29,482
Of which in government and private schools	(000)	22,552	25,943	26,111
Percent in Madrasah schools	(%)	11.1	11.4	11.4
Pupil-teacher ratio		33.8	31.5	30.0
Primary school teachers	(000)	667	823	870
(No. of schools)	(000)	(106)	n.a.	n.a.
(No. of teachers per school)	(No.)	(6.3)	n.a.	n.a.

Source: Department of Education and Culture, BP3K, Kumpulan Proyeksi Pendidikan Dasar, Menengah dan Tinggi, 1983.

**Table 3.9: DISTRIBUTION OF PRIMARY SCHOOLS AND TEACHERS IN 1980/81 AND THE EXPECTED DISTRIBUTION OF STUDENTS IN 1988/89**

Region	Percent of primary schools 1980/81	Percent of teachers 1980/81	Percent of students 1988/89 /a
Java	54.9	59.2	56.7
Sumatra	20.2	19.7	22.1
Kalimantan	6.5	5.1	5.1
Sulawesi	9.1	7.8	8.5
E. Islands	9.3	8.2	7.6
<u>Total</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>

/a These are actually the percentage shares of the 7-12 population.

Source: Central Bureau of Statistics

earlier (Table 3.1) provide an indication of how the various regions have to move at different rates in order to catch up with an 100% participation rate by the end of Repelita IV. For instance, Jakarta has to go from the 1980 participation rate of 91% to 100%, while Irian Jaya has to move all the way from a participation rate of 67% to 100%. The Government is aware of the present situation and future requirements. In a field like education, national targets can be fairly easily translated into regional objectives. However, when there are financial stringencies, steps have to be taken to see that some of the relatively backward regions are not left far behind.

3.18 Commensurate with the past growth of primary education, the Government hopes to achieve rapid expansion of secondary and higher education. The gross enrolment ratio at the junior high school (SMP) level is projected to increase from 36.6% in 1982/83 to 60% by the end of the Fourth Plan. At the senior high school level (SMA), the 1982/83 enrolment ratio was 14.5% with the projected value for 1988/89 at 19.4%. One can expect that the very high rates of junior high school expansion in Repelita IV will necessitate a matching rapid expansion in Repelita V in the senior high school enrolment. In higher education (both diploma and degree levels), the total student strength of around half a million in 1980/81 (both private and public sectors inclusive) is projected to hit a 1.2 million level by the end of Repelita IV. Given this rate of expansion in education, the concern naturally arises not only on regional equity in terms of quantity, but also and most importantly, equity in quality. At the university level, for instance, consider the data in Table 3.10. It shows the proliferation of institutions with less and less qualified staff as one moves farther from Jakarta and Java. Such differentials need attention and the Government should review the situation.

Table 3.10: PERMANENT TEACHING STAFF AT STATE UNIVERSITIES OR SIMILAR STATE INSTITUTIONS BY REGION AND LEVEL OF QUALIFICATION, 1979/80

Regions	No. of institutions	Teaching Staff (No.)		Ratio of Ph.D/ Professor to Master's Degree holders
		With Master's degree	Ph.D or Professor level	
Jakarta	2	905	181	1:5
Rest of Java	16	6,822	418	1:16
Sumatra	9	2,665	44	1:61
Kalimantan	4	435	5	1:87
Sulawesi	5	1,655	31	1:53
E. Islands	5	810	12	1:68

Source: Bank staff estimates.

3.19 Goals in the health sector: By the year 2000, according to the long-term development plan of the Department of Health, an infant mortality rate of 45 has to be achieved. Other targets include life expectancy of 60 years, reduction in the proportion of underweight babies from 14% to 7%, and lowering of the protein-calorie malnutrition in under-5 age group from 30% to 10%. As part of the plan it was envisaged that the capacity of the regions

and provinces to plan and administer their own health services should be strengthened. In relation to the IMR goal of 45 mortalities per thousand live births, it is clear that there are many regions where special efforts have to be mounted in order to bring down the high levels of IMR. West Java (IMR - 131), West Sumatra (122), South Kalimantan (122), Central Sulawesi (129), West Nusa Tenggara (188), and East Nusa Tenggara, Maluku and Irian Jaya (125) need special attention.

3.20 The 1980 census recorded an overall morbidity level of 8 million persons in a reference week. This could be translated into an average of 240 persons per day to visit a public health center if all sick people visited the centers, and if the centers operated 7 days a week. No health center could handle such a load. One doctor could see about 30 patients in an 8-hour day if he spent 15 minutes on the average with a patient. On the basis of the morbidity rate observed in 1980, an average of 1.3 million people per day could be sick in Indonesia by 1988/89. If it is assumed that about half of these people will look to health centers in the first instance, then, at 30 persons capacity level, at one doctor per health center, the requirement is a total contingent of 21,700 public health centers spread all over Indonesia. The average population that will be reached by a health center by 1988/89 will be 7,800 persons as against the 31,000 in 1980. The accomplishment of such a target would call for special attention in Java and Sumatra and some of the provinces in the Eastern Islands.

3.21 Before concluding the discussion, the situation relating to water supply will be briefly reviewed. A very strong linear relationship was found (quite expectedly) between the provincial data on percent of households having access to piped water for drinking and the per capita production of water (per million inhabitants). This relationship <sup>/9</sup> has been used to project the production of water needed to supply piped water for drinking purposes to 25% of households instead of the 7% in 1980. On an average, 695 liters/second per million persons have to be produced. This level implies, as shown in the illustrative projections of Table 3.11 not only very large magnitudes of increases in production capacity but also large regional differentials in the expansion rates. Kalimantan's needs are relatively more urgent, followed by Sulawesi.

3.22 One important question in regard to water supply and sanitation expansion is, where the incremental capacity should be located in the short run; in the urban areas predominantly or in both urban and rural areas or in rural areas. This is a complex issue, with serious financial implications. For instance, cost recovery may be relatively more feasible in urban areas and hence the financing of services may be a less severe problem. In the rural areas, the services may have to be given free of cost in the short term, which may not be feasible. Thus urban-rural needs and priorities as well as prospects for cost recovery are the principal issues in regard to water supply and sanitation.

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<sup>/9</sup> The relationship is:  
(% of household ) = 2.095 + 0.033 (water production)  
(with piped water) (per capita )

Table 3.11: ILLUSTRATIVE PROJECTION OF GROWTH IN WATER PRODUCTION

Region	Percent of households with access to piped water for drinking in 1980	Water production (liters/million population, 1980)	Percentage rate of growth in per capita production (liters/million) required to supply drinking water to 25% of households by some target date
Java	6.7	192	262
Sumatra	6.7	158	340
Kalimantan	6.8	96	624
Sulawesi	6.1	125	456
E. Islands	8.8	143	386
<u>Total</u>	<u>7.0</u>	<u>172</u>	<u>304</u>

PART II

PROCESSES TO REDUCE SPATIAL DIFFERENTIALS:  
POPULATION MOVEMENTS AND PUBLIC EXPENDITURES

## CHAPTER 4

### POPULATION, MIGRATION AND EMPLOYMENT

#### Introduction

4.01 Movement of people from a poor region to a relatively rich region, or from a region devoid of economic opportunities to one where opportunities exist, is one of the processes by which inter-regional economic disparities get reduced over time. This chapter deals with some aspects of that process in relation to the various regions and provinces of Indonesia.

#### Population Growth and Distribution

4.02 Indonesia, with over 150 million inhabitants ranks fifth in terms of population size among the countries of the world.<sup>/1</sup> The average annual population growth rate for the 1970s was about the highest in the past five decades: 2.3% for the period 1971-80 as against 2.1% for 1961-71 and 1.5% for 1930-61. The acceleration in population growth in the 1970s was mainly due to a substantial reduction in mortality. Life expectancy at birth increased from 47 years in 1969 to 53 year in 1978 and infant mortality declined from 140 in 1969 to 105 in 1978.

4.03 Comprising five large and thousands of small islands, Indonesia presents a complex geographical-demographic picture. Sumatra, Kalimantan and Irian Jaya are the three largest islands accounting for 25%, 28% and 22% respectively of the total area of Indonesia. These three islands, however, account for only 19%, 5% and 1% respectively of the total population. In contrast, the island of Java, with a share of 7% in area, has 62% of the population with the high density of 690 persons per sq.km. in 1980. These contrasts in population density across the islands and provinces are brought out in Table 4.1. The provinces of Jakarta, Lampung, Bengkulu, Jambi and East Kalimantan had average population growth rates of 4% or more (Table 4.2).

4.04 A major demographic characteristic until recently was the relatively high rates of fertility and mortality. A study based on the population census of 1971, the 1976 inter-censal survey and the population census of 1980 shows that both the birth rate and the death rate have decreased significantly. The estimated average crude birth rate, which for the period 1967-70 was a high 43.8, decreased to 40.2 during 1971-75 and to 36.2 during 1976-79. At the same time the crude death rate decreased from 18.8 during 1967-70 to 16.0 (1971-75) and 13.9 (1976-79). The rate of population growth, therefore, at the beginning of the 1970s, was 2.35% and at the end of the said period (1978-79) it was less at 2.06%. In regard to the various provinces, however, large mortality and fertility differentials interacted with fairly significant migration levels. The data in Table 4.3 indicate this. Jakarta, Lampung,

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<sup>/1</sup> China, India, USSR and USA have population sizes larger than Indonesia.

Table 4.1: POPULATION DISTRIBUTION BY REGION 1961-80

Indicator (1)	Java (2)	Sumatra (3)	Kalimantan (4)	Sulawesi (5)	Eastern Islands (6)	Indonesia (7)
Land area (sq km)	132,187	473,606	539,460	189,216	570,100/a	1,904,569
Percentage of area	6.94	24.87	28.32	9.94	29.93	100.00
Population (x 1000)						
- 1961 Census	62,993	15,739	4,101	7,079	7,106	97,019
- 1971 Census	76,102	20,812	5,152	8,535	8,631	199,232
- 1980 Census	91,270	28,016	6,723	10,409	11,072	147,491
Population Density per sq km						
- 1961 Census	476	33	8	37	12	51
- 1971 Census	575	44	10	45	15	63
- 1980 Census	690	59	12	55	19	77
Percentage Distribution of Population						
- 1961 Census	64.93	16.22	4.23	7.30	7.32	100.00
- 1971 Census	63.83	17.45	4.32	7.16	7.24	100.00
- 1980 Census	61.80	18.99	4.56	7.06	7.51	100.00
Average Annual Population Increase						
- 1961-71	1.9	2.8	2.3	1.9	1.9	2.1
- 1971-80	2.0	3.3	2.8	2.2	2.8	2.3

/a Of this, West Irian accounts for 421,981 sq km.

**Table 4.2: POPULATION 1930, 1961, 1971, 1980 AND  
AVERAGE ANNUAL GROWTH RATES 1930-80**

Province	Population in thousands				Growth rate (%)		
	1930	1961/a	1971/a	1980	1930-61	1961-71	1971-80
<u>Java</u>	<u>41,718</u>	<u>62,993</u>	<u>76,103</u>	<u>91,282</u>	<u>1.3</u>	<u>1.9</u>	<u>2.0</u>
DKI Jakarta	811	2,907	4,576	6,506	4.2	4.6	4.0
West Java	10,586	17,615	21,633	27,490	1.7	2.1	2.7
Central Java	13,706	18,407	21,877	25,365	1.0	1.7	1.7
D.I. Yogyakarta	1,559	2,241	2,490	2,745	1.2	1.1	1.1
East Java	15,056	21,823	25,527	29,175	1.2	1.6	1.5
<u>Sumatra</u>	<u>8,255</u>	<u>15,743</u>	<u>20,813</u>	<u>27,980</u>	<u>2.1</u>	<u>2.8</u>	<u>3.3</u>
Lampung	361	1,668	2,777	4,622	5.1	5.2	5.8
Bengkulu	323	406	519	768	0.7	2.5	4.4
South Sumatra	1,378	2,773	3,444	4,621	2.3	2.2	3.3
Riau	493	1,235	1,642	2,163	3.0	2.9	3.1
Jambi	245	744	1,006	1,440	3.6	3.1	4.1
West Sumatra	1,910	2,319	2,793	3,402	0.6	1.9	2.2
North Sumatra	2,541	4,969	6,623	8,357	2.2	2.9	2.6
D.I. Aceh	1,003	1,629	2,009	2,608	1.6	2.1	2.9
<u>Kalimantan</u>	<u>2,169</u>	<u>4,102</u>	<u>5,153</u>	<u>6,721</u>	<u>2.1</u>	<u>2.3</u>	<u>3.0</u>
West Kalimantan	802	1,581	2,020	2,483	2.2	2.5	2.3
Central Kalimantan	203	497	700	950	2.9	3.5	3.5
South Kalimantan	836	1,473	1,699	2,069	1.8	1.4	2.2
East Kalimantan	329	551	734	1,219	1.7	2.9	5.8
<u>Sulawesi</u>	<u>4,232</u>	<u>7,079</u>	<u>8,535</u>	<u>10,377</u>	<u>1.9</u>	<u>1.9</u>	<u>2.2</u>
Central Sulawesi	390	652	914	1,289	1.7	3.4	3.9
North Sulawesi	748	1,351	1,718	2,091	1.9	2.4	2.2
South Sulawesi	2,657	4,517	5,189	6,054	1.7	1.4	1.7
Southeast Sulawesi	436	559	714	943	0.8	2.5	3.1
Bali	1,101	1,783	2,210	2,470	1.6	1.8	1.7
West Nusa Tenggara	1,016	1,808	2,202	2,724	1.9	2.0	2.4
East Nusa Tenggara	1,343	1,967	2,295	2,722	1.2	1.6	1.9
Maluku	579	790	1,089	1,407	1.0	3.3	2.9
Irian Jaya	179	748	923	1,146	4.8	2.0	2.4
<u>Total Indonesia</u>	<u>60,593</u>	<u>97,109</u>	<u>119,323</u>	<u>147,383</u>	<u>1.5</u>	<u>2.1</u>	<u>2.3</u>

n.a. = not available

= 0.03 percent of total

/a Includes adjustment for the exclusion of rural Irian Jaya.

Sources: Population Censuses, 1961, 1971 and 1980.

Bengkulu, Jambi, East Kalimantan and Central Sulawesi had very high in-migration rates. Provinces in Sulawesi, West Nusa Tenggara, Maluku and Irian Jaya had very high birth rates. Most of these regions had relatively high death rates as well. The very low birth rate in Yogyakarta is generally attributed to "traditionally low level of marital fertility".<sup>/2</sup>

#### Migration Rates and Trends, 1971-80

4.05 Lifetime Migration by Province: Table 4.4 has a summary of lifetime migration magnitudes based on the 1971 and 1980 censuses. By and large, the migration patterns indicated by the two censuses were the same in regard to direction of movement by province. Provinces which on a net basis received people continued to do so just as provinces which had net out-migration in the past continued to have net out-migration. A notable exception was Central Sulawesi which had a slight (2%) net out-migration rate according to the 1971 census data and about a 12% net in-migration rate according to the 1980 census.

4.06 In a number of Sumatra provinces in-migration had a significant effect on population change. For instance, in the province of Riau 1 out of 6 inhabitants was an in-migrant and in Jambi the proportion was 1 out of 5. Most conspicuous were the figures for Lampung (an old transmigration receiving area), where in-migrants made up 39% of the total population.<sup>/3</sup> In Java, Jakarta continued to attract large numbers of in-migrants. In 1980, as in 1971, 40% of the population of Jakarta was born outside Jakarta. In Kalimantan, the provinces of South and East Kalimantan during the 1970s received a lot of workers from other areas so that the percentages of the populations born outside reached 17% and 31%, respectively by 1980. The increase of new arrivals was also related to the transmigration program, especially in South Kalimantan. East Kalimantan attracted migrants because of its logging and petroleum industries. In Sulawesi, the province of Central Sulawesi experienced a rather large shift in migration process. In 1971 net in-migrants were less than 2% of the population; in 1980 the process was reversed and net in-migrants were 12% of the population. The number of migrants to Southeast Sulawesi tripled during the 1971-80 decade and the total of the out-migrants doubled, resulting in a positive net in-migration. Nationally, interprovincial mobility increased (from 4.8% to 6.8%).

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<sup>/2</sup> Peter F. McDonald and Alip Sontosudarmo, Response to Population Pressure: The Case of the Special Region of Yogyakarta, Gajah Mada University Press, 1976.

<sup>/3</sup> For more details on the Government transmigration program, see the discussion below, especially pp. 59-61.

Table 4.3: ESTIMATES OF NET MIGRATION AND NATURAL INCREASE  
COMPONENTS OF POPULATION CHANGE IN PROVINCES, 1971-80

Provinces	Growth rate	Net migration	Natural increases
DKI Jakarta	3.93	1.15	2.78
West Java	2.66	0.03	2.63
Central Java	1.64	-0.57	2.21
D.I. Yogyakarta	1.10	0.15	0.95
East Java	1.49	-0.26	1.75
D.I. Aceh	2.93	0.17	2.76
North Sumatra	2.60	-0.22	2.82
West Sumatra	2.21	-0.36	2.57
Riau	3.11	0.37	2.74
Jambi	4.07	0.99	3.08
South Sumatra	3.32	0.37	2.95
Bengkulu	4.39	1.31	3.08
Lampung	5.77	2.04	3.73
West Kalimantan	2.31	0.07	2.24
Central Kalimantan	3.43	0.68	2.75
South Kalimantan	2.16	0.13	2.03
East Kalimantan	5.73	2.00	3.73
North Sulawesi	2.31	0.06	2.25
Central Sulawesi	3.86	1.10	2.85
South Sulawesi	1.74	-0.30	2.04
Southeast Sulawesi	3.09	0.42	2.67
Bali	1.69	-0.14	1.82
West Nusa Tenggara	2.36	-0.12	2.48
East Nusa Tenggara	1.95	-0.08	2.03
Maluku	2.88	0.24	2.64
Irian Jaya	2.67	0.26	2.41
Indonesia	2.33	0	2.33

Source: Calculations based on the 1980 Population Census.

Table 4.4: LIFETIME MIGRATION RATES, 1971 AND 1980

Province	Percentage of Migrants to Total Population					
	1971			1980		
	In	Out	Net	In	Out	Net
DKI Jakarta	39.4	2.9	+36.5	39.8	6.2	+33.6
West Java	1.7	5.5	-3.8	3.5	5.4	-1.9
Central Java	1.2	8.2	-7.1	1.3	12.7	-11.4
D.I. Yogyakarta	4.0	10.7	-6.7	6.4	9.2	-2.8
East Java	1.1	2.9	-1.9	1.5	5.5	-4.0
D.I. Aceh	3.0	3.3	-0.2	5.5	4.4	+1.0
North Sumatra	8.0	2.8	+5.2	6.6	5.0	+1.6
West Sumatra	3.2	11.6	-8.5	3.9	16.4	-12.6
Riau	12.4	2.5	+9.9	15.9	4.0	+11.9
Jambi	15.5	2.7	+12.8	20.4	3.3	+17.1
South Sumatra	9.5	5.8	+3.7	13.2	7.2	+6.0
Bengkulu	6.9	4.8	+2.2	15.8	5.1	+10.7
Lampung	36.1	1.1	+35.0	38.6	1.2	+37.4
West Kalimantan	1.0	1.7	-0.7	4.2	2.9	+1.3
Central Kalimantan	7.1	1.6	+5.5	14.7	2.6	+12.1
South Kalimantan	3.9	5.0	-1.1	6.9	8.2	-1.3
East Kalimantan	5.4	3.2	+2.2	24.1	2.8	+21.3
North Sulawesi	2.8	3.5	-0.7	4.2	5.7	-1.6
Central Sulawesi	5.6	3.8	-1.8	14.4	2.6	+11.7
South Sulawesi	1.3	4.7	-3.4	1.8	8.5	-6.7
Southeast Sulawesi	3.6	4.3	-0.7	11.1	9.6	+1.6
Bali	1.0	2.7	-1.7	2.6	4.8	-2.2
West Nusa Tenggara	1.5	0.6	+0.9	1.9	1.6	+0.3
East Nusa Tenggara	0.5	1.1	-0.7	1.3	1.7	-0.5
Maluku	3.9	3.4	+0.5	8.9	4.6	+4.3
Irian Jaya	22.2	4.3	+18.0	8.4	1.4	+7.0
Indonesia	4.8	4.8	0	6.8	6.8	0

Source: Estimates of lifetime migration are based on the census information on place of birth and place of usual residence.

Table 4.6: INTER-ISLAND LIFETIME MIGRANTS 1971 AND 1980  
(No. of persons in thousands) /a

Out-migrants from	Year	In-migrants to					Total
		Sumatra	Java	Kali- mantan	Sulawesi	Eastern islands	
Sumatra	1971	-	348	7	8	6	369
	1980	-	718	26	23	20	787
Java	1971	1,735	-	90	57	53	1,935
	1980	2,906	-	374	167	137	3,584
Kalimantan	1971	17	75	-	6	2	100
	1980	19	122	123	10	5	156
Sulawesi	1971	90	98	23	-	52	263
	1980	145	137	123	-	140	545
Eastern Islands	1971	28	62	3	17	-	110
	1980	31	115	11	74	-	231
<u>Total</u>	1971	<u>1,870</u>	<u>583</u>	<u>123</u>	<u>88</u>	<u>113</u>	<u>2,777</u>
	1980	<u>3,101</u>	<u>1,092</u>	<u>534</u>	<u>274</u>	<u>302</u>	<u>5,303</u>

/a Excludes persons born abroad, East Timor and those whose place of birth was not stated.

census. The same comparative percentages for Kalimantan, Sulawesi and the other islands were 78, 25 and 50 respectively. People from Sulawesi are more or less equally distributed in all other islands. On all these islands, in-migrants from Java formed the largest group.

4.11 At the time of the 1971 census, 5.7 million persons were counted as lifetime inter-provincial migrants. Of this total, 2.8 million persons or 50% were inter-island migrants. At the time of the 1980 Census, inter-island migrants (5.3 million people) comprised 53% of all inter-provincial mobile population (10 million persons). This relatively constant tempo of inter-island mobility requires further analysis. Since 2.8 million people in 1971 and 5.3 million people in 1980 were found away from their island of birth, the net inter-island movement during 1971-80 was 2.5 million (Table 4.7). When this net movement is looked at as an outflow, Java accounts for an outflow of 1.7 million or 68% of the total. Sumatra contributed 0.4 million and Sulawesi 0.3 million to the total net outflow. It is of interest to note here the role of transmigration in the demographic balance sheet for Java. Java sent out 1.7 million people; of this 1.0 million could be accounted for by the official transmigration program; and Java received 0.5 million persons from the rest of

Table 4.7: POPULATION FLOWS DURING 1971-80  
(Million Persons)

From/To	Sumatra	Java	Kalimantan	Sulawesi	Others	Total Outflow
Sumatra	-	0.4	-	-	-	0.4
Java	1.2	-	0.3	0.1	0.1	1.7
Kalimantan	-	-	-	-	-	-
Sulawesi	-----0.1-----		0.1	-	0.1	0.3
Others	-	0.1	-	-	-	0.1
<u>Total Inflow</u>	<u>1.2</u>	<u>0.5</u>	<u>0.4</u>	<u>0.1</u>	<u>0.2</u>	<u>2.5</u>
Transmigrants (1971-80) from Java <u>/a</u>	+0.6	-	+0.2	+0.2	-	1.0

/a These data are not from the census. They are the officially recorded numbers of transmigrants.

Indonesia. The official transmigration program thus played a singularly important role in the net out-migration from Java. In addition, it might be said that in the absence of the transmigration program, the total mobility would have been only 1.5 million persons instead of 2.5 million and migration would have been largely inter-provincial only and not inter-island. Another important point to note is the ability of different areas to attract in-migrants. Sumatra and Kalimantan have this capability, the inflows were larger than the outflows and transmigrants accounted for half of the inflows. Sulawesi, being relatively poor and underdeveloped, has not yet demonstrated this capability, official sources recorded 0.2 million persons as transmigration from Java to Sulawesi, but the census data implied an outflow during 1971-80 from Java to Sulawesi of 0.1 million persons. (The numbers in thousands were 168 for official data on transmigrants and 110 for migrational outflow estimated from the census.) A large part of this "discrepancy" was because of sizeable inflows from Sulawesi to Java. There were also significant movements from Sulawesi to other regions. Clearly, Sulawesi was not yet highly attractive for people to move in from far off places. It also exemplifies that people from the relatively poor regions move out voluntarily to improve their standards of life.

4.07 The Pattern of Lifetime Migration: Table 4.5 shows the destination province of the largest proportion of out-migrants from each province and the proportion of these out-migrants to total in-migrants at the destination province. It can be seen that the migrants from the provinces of Sumatra have generally moved to another province in Sumatra, except that those from North and West Sumatra have predominantly moved to Jakarta.

4.08 More than half of the out-migrants from Jakarta lived in West Java, while the majority of the population of Jakarta not born in the capital city, came from West and Central Java. Each of these provinces accounted for about one-third of all migrants to Jakarta. When data similar to those in Table 4.5 were assembled for 1971, it was found that the percentage of the population living in Jakarta and born in West Java decreased between 1971 and 1980. This was caused by the fact that provinces other than West Java were sending more migrants to Jakarta. For instance, in 1971, the largest proportion of out-migrants from Central Java went to Lampung, but by 1980 the largest proportion of migrants from Central Java was directed to Jakarta. For migrants from Yogyakarta and East Java, Lampung remained the main receiving area both in 1971 and 1980.

4.09 The destination of the migrants from Kalimantan provinces varies. Most out-migrants from West Kalimantan (64% of total) preferred DKI Jakarta while 27% of out-migrants from East Kalimantan settled in East Java. In regard to Sulawesi, traditionally, people from South Sulawesi moved out of Sulawesi. The 1971 data showed that the major flow of migrants from South Sulawesi was to Jambi. By 1980 the flow shifted to East Kalimantan. Both the 1971 and 1980 data showed that nearly half of the migrants from Southeast Sulawesi settled in Maluku. The association between volume of migration and distance showed up in the migration links between a number of neighboring provinces. This pattern is apparent, for instance, for the migrants from Maluku and Irian Jaya. One-third of the population born in Maluku was registered in Irian Jaya in 1980, while one-fifth of the migrants from Irian Jaya resided in Maluku.

4.10 Inter-island Migration, 1971 and 1980: Table 4.6 shows lifetime inter-island migration as at 1971 and 1980 census dates. If attention is paid to the flow of the in-migrants as a whole (last line in the Table), it is evident that two-thirds of the total number of people have moved to Sumatra and about one-fifth to Java. On the other hand, in regard to the flow of out-migrants (last column), Java is the island which has sent off the most migrants, followed by Sumatra. It was found that 93% of the people entering Sumatra by 1971 and 94% by 1980 were from Java, while 90% of the people who left Java in 1971 and 81% in 1980 settled in Sumatra. For Sumatra, Java continued to be the most important sending region. Out of the 3.1 million arrivals into Sumatra, 2.9 million came from Java. The people of Java, however, had increased their spread into islands other than Sumatra. This, in part, should be attributed to the Government efforts in the 1970s to settle transmigrants outside Sumatra. Thus, for instance, according to the 1980 census, 70% of the in-migrants to Kalimantan came from Java. For Sulawesi and the Eastern Islands, the percentages were 61% and 45% respectively. As for the migrational outflow, of the 787 thousand people born in Sumatra but living on other islands, 718 thousand (91%) were in Java at the time of the 1980

Table 4.5: INTER-PROVINCIAL LIFETIME MIGRATION PATTERN, 1980

Province of origin	Principal province of destination	Total migrants leaving province of origin ('000)	Total migrants entering province of destination ('000)	Migrants from origin to principal destination as of	
				Total out-migrants from origin (%)	Total in-migrants at the destination (%)
DKI Jakarta	West Java	401	1,004	65.3	26.0
West Java	DKI Jakarta	1,488	2,599	56.3	32.2
Central Java	DKI Jakarta	3,228	2,599	26.2	32.5
D.I. Yogyakarta	Lampung	253	1,793	24.4	3.4
East Java	Lampung	1,598	1,793	30.7	27.4
D.I. Aceh	North Sumatra	116	571	54.1	11.8
North Sumatra	DKI Jakarta	418	2,599	36.7	4.9
West Sumatra	DKI Jakarta	559	2,599	25.2	5.4
Riau	West Sumatra	86	135	28.9	18.6
Jambi	West Sumatra	47	135	24.3	8.5
South Sumatra	Lampung	333	1,793	33.8	6.3
Bengkulu	South Sumatra	39	618	46.4	2.9
Lampung	South Sumatra	58	618	46.4	2.9
West Kalimantan	DKI Jakarta	72	2,599	64.1	1.8
Central Kalimantan	S. Kalimantan	25	145	48.0	8.3
South Kalimantan	C. Kalimantan	169	142	46.3	55.2
East Kalimantan	East Java	34	466	27.4	2.0
North Sulawesi	C. Sulawesi	121	187	30.6	1.0
Central Sulawesi	North Sulawesi	34	91	25.4	9.4
South Sulawesi	E. Kalimantan	512	297	16.6	28.7
Southeast Sulawesi	Maluku	90	130	48.0	33.2
Bali	C. Sulawesi	118	187	22.5	14.2
West Nusa Tenggara	East Java	44	466	19.5	1.9
East Nusa Tenggara	DKI Jakarta	47	2,599	19.2	0.4
Maluku	Irian Jaya	65	96	27.5	18.6
Irian Jaya	Maluku	16	130	22.5	2.7

Source: Population Census 1980.

### Characteristics of the Migrants

4.12 Most studies of migration find some common characteristics among the migrants.<sup>/4</sup> They invariably include a relatively high proportion of young adults of working age. Among the migrants, the proportion of males is higher at older ages than at younger ages. Migrants generally have higher educational levels than non-migrants. A relatively larger proportion of migrants are employed in non-agricultural activities. A positive relation between regional economic condition and rate of in-migration is also generally observed.<sup>/5</sup>

4.13 Education: The education level of the Indonesian people is still low. More than 90% of Indonesian people had either not been to school or had only completed the primary school level. As the educational status of the large majority is rather low, it does not yet appear as an important characteristic of the mobile population. For instance, among the migrants, about 80% had either not been to school or had only primary school education. This, however, should not mask another important observation. Of those who moved to the rural areas, 17.3% had junior or senior high school education compared to 5.4% for the non-migrants. This percentage was a high 40% for the migrants into Java, reflecting very clearly that Java, especially the urban areas, notably Jakarta and Surabaya, drain the Outer Islands of their relatively highly educated manpower.

4.14 Sector of Activity: Indonesia is a large agricultural country where the great majority of the population depends on the agricultural sector. There are distinct differences between the patterns of sectoral distribution of the migrants to urban areas and the migrants to rural areas. Among the migrants moving into the urban areas, 76% are found in the services, followed by industry (mining, manufacturing and construction) with 21%. Of the migrants moving into rural areas, 60% work in the agricultural sector, 26% in the field of services and 13% in mining, manufacturing and construction. There are, however, considerable differences among the different regions. Among migrants to the island of Java, 71% are engaged in services, compared to 26% for Sumatra, 44% for Kalimantan, 34% for Sulawesi and 67% for the other islands. Only 6% of the migrants to Java are in agriculture whereas among the migrants to all other islands rather high percentages are in agriculture: 63%

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<sup>/4</sup> See K.C. Zachariah and Julien Conde, Migration in West Africa, Demographic Aspect, A Joint World Bank - OECD Study, Oxford University Press, 1981, and Lorene Y.L. Yap, Internal Migration in Less Developed Countries: A Survey of the Literature, World Bank Staff Working Paper No. 215, Washington DC, 1975.

<sup>/5</sup> In Ghana, for example, the rank correlation between the in-migration rate and per capita gross regional product was 0.66. Out-migration rates were negatively correlated with the economic condition of the country or area. For the seven regions of Ghana the rank correlation between out-migration and regional product per capita was -0.62. See Zacharia and Conde, op. cit.

in Sumatra, 53% in Sulawesi and 39% in Kalimantan. Here again, it is seen that the migrants who have moved to Java reflect the working patterns of typical urban in-migration. Also, the very high proportion of agricultural workers among the migrants into Sumatra is a reflection of official transmigration and the associated spontaneous migration.

#### Determinants of Migration

4.15 Individuals and families move out of their places of birth for a variety of reasons. Rural to urban migration, and migration from small towns to large towns take place due to the interplay of the so-called pull and push factors. Availability of educational and employment opportunities is an important pull factor which attracts people to the cities from the rural areas. Relatively permanent change of residence requires particularly strong economic motivation and opportunity.<sup>/6</sup> An ESCAP study on migration in Indonesia observed that the bulk of field studies which examined the factors causing population mobility in Indonesia confirmed the dominance of the economic factors.<sup>/7</sup>

4.16 The provincial migration data presented earlier were used in conjunction with various social and economic indicators to find the major determinants of migration with the help of multiple regression analysis. Two important results came from the analysis. First, there is a stable and significant association between the rates of transmigration and net migration and second, there is a positive relationship between provincial income and net migration. To a large extent, these are but the mirror reflections of the net in-migration into the Sumatran provinces, encouraged by the officially sponsored transmigration program and the net out-migration from the relatively poor provinces of Java, as well as voluntary out-migration from impoverished Sulawesi provinces.

#### The Transmigration Program

4.17 History in Brief: During the colonial past, the Dutch introduced a program of out-migration to Outer Islands as a measure to alleviate the poverty of the Javanese.<sup>/8</sup> In 1905, a total of 155 families moved from Kedu in

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<sup>/6</sup> However, economic factors can not fully account for migration patterns and regional migration differentials. Socio-cultural factors sometimes dominate in inter-provincial migration. For instance, some ethnic groups of Indonesia are habitual migrants. This pattern of behavior has been noted in regard to the Minangkabau people of West Sumatra, Acehese and Bataks of the northern part of Sumatra, Rotinese of NTT, Banjarese of South Kalimantan and the Bugis of South Sulawesi. While one must not fail to recognize these migration streams due to socio-cultural reasons, such migration is relatively localized and largely intra-provincial.

<sup>/7</sup> ESCAP, Migration, Urbanization and Development in Indonesia. New York, U.N., 1981, pp.106-110.

Central Java to Lampung to found the village of Bagelen. This program was fully financed by the Dutch Government in the first phase during 1905-11. In the next phase during 1912-31, however, the settlers had to share some of the costs. During the entire 26 years, about 21,000 people were moved from Java to the Outer Islands. Then the program picked up momentum and during the period 1932-41, as many as 162,000 moved. After independence in 1945, the new Republic continued the program under the label of transmigration and the first batch of transmigrants moved out of Java in 1950. During the period 1971-80, more than one million people have been moved under the government program (Table 4.8).<sup>/9</sup> About a third each of these people came from Central Java and East Java, about a fifth from West Java and the balance from Yogyakarta and Bali. The major receiving region (historically) was Sumatra (62.3% - see Table 4.8). The transmigration inflow rate in relation to the total 1971 Sumatra population was 3.1%. This rate for Kalimantan was 3.6% and for other regions it was about 2% or less. The low population densities prevailing in Kalimantan and Irian Jaya would permit relatively large inflows in future, especially since Sumatra could hence forward attract voluntary in-migration.

Table 4.8: GROSS TRANSMIGRATION RATES BY REGION

Major receiving region	Officially sponsored Transmigrants		Population 1971 ('000)	Gross transmigration inflow rate (%)	(For reference) Density per sq km (1980)
	Sept. 1972-Oct. 1980 ('000)	(%)			
Sumatra	638.6	62.3	20,813	3.1	59
Kalimantan	187.1	18.2	5,153	3.6	12
Sulawesi	167.6	16.4	8,535	2.0	55
Maluku	12.1	1.2	1,089	1.1	19
Irian Jaya	19.6	1.9	923	2.1	3
<u>Total</u>	<u>1025.0</u>	<u>100.0</u>	<u>36,513</u>	<u>2.8</u>	

4.18 Long-term Targets: In the early 1950s, the independent Republic set a goal for the transmigration program of 49 million people by 1995. Between 1951-59, the actual government sponsored migrants numbered only 221,500 as against a goal of 6 million for the period. Despite such setbacks, government targets continue to be ambitious partly because of the perceived need to move Java's rural poor to the Outer Islands. For instance, the President reiterated, at the time of inaugurating a new transmigrant settlement near Pekanbaru in

<sup>/8</sup> For a bibliography on transmigration, see Paul A. Meyer and Colin Macandrews, Transmigration in Indonesia: An Annotated Bibliography Yogyakarta, Gajah Mada University Press, 1978.

<sup>/9</sup> It is reported that in the past 3 years, after October 1980, some 350,000 families transmigrated under the official program.

Sumatra on August 30, 1982, that the expansion of agricultural land in Java was impossible and that some 13 million families should be moved from Java./<sup>10</sup> This is, of course, a long-term target. For the immediate future, the annual targets will be at least equal to, if not more than, 100,000 families per year, as in the Third Five Year Plan (Repelita III). Some of the problems confronting the program and the issues to be addressed in the future are briefly mentioned below.

4.19 Some Associated Problems: It is by no means difficult to appreciate the economic and political necessity of a transmigration program. There are, however, many associated problems. Costs are bound to increase as more and more remote areas are opened up. (Already costs are high, nearing almost \$7,000 per settler family.) Escalating costs would pose financial constraints for continued program implementation at planned levels. There is a major non-financial problem as well, namely the whole question of land availability for transmigration. It is often stated that some 48 million ha may be available in the Outer Islands. There are, however, questions pertaining to the accuracy of the estimate in the absence of reliable land-use and land potential data.

4.20 Problems pertaining to quality of land, inputs, finance and marketing which might occur in a transmigrant site could have serious repercussions on settler welfare. In a review of the conditions of 2,733 migrant households in Southeast Sulawesi settled during 1969-74 (Repelita I), it was found that some of the settlers sought wage employment outside their settlement areas because of low incomes arising from landholdings of marginal quality, poor irrigation conditions, and inadequate infrastructure./<sup>11</sup> In another study, a research team from the Population Institute of the Gajah Mada University focussed on three transmigrant settlements located in South Kalimantan and South Sulawesi. The settlers moved to the areas during 1970-73. An area in South Kalimantan which received considerable spontaneous transmigration was also studied for purposes of comparative analysis. The study observed striking contrasts between spontaneous and general transmigrants. A far greater proportion of spontaneous migrants claimed that they could make a living from their farms, and that in general they were better off economically than in their home regions. Among the officially sponsored transmigrants, agriculture in most cases could not support the family, because of poor land quality, lack of irrigation facilities and inadequate infrastructure./<sup>12</sup> Similar observations were also made in the Bank's Transmigration Review report; the report pointed to the problems of those settled on upland farms, while observing that most settlers were better off in their places of settlement than in Java from where they came./<sup>13</sup> There is also

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/10 Indonesian Observer, Jakarta, August 31, 1982.

/11 See N.D. Abdul Hameed, PELITA I: Settlements in Sulawesi Tenggara, Jakarta: Directorate General of Transmigration, July 1976, p.III.

/12 See Soeratman, Masri Singarimbun and Patrick Guinness, The Social and Economic Conditions of Transmigrants in South Kalimantan and South Sulawesi, Yogyakarta, 1977.

some evidence that the transmigrant receiving provinces have not fared well on the poverty incidence scale. Lampung's rural poverty incidence was a high 47% in 1980 (see Annex 1, Table 3). Southeast Sulawesi was worse (53%) and South Sulawesi was no better (46%).

4.21 Critics consider that transmigration has not yet become an integral part of an overall regional development strategy.<sup>/14</sup> Some recommend that the transmigration program should "aim at ensuring an adequate supply of labor for regional development outside as well as in agriculture; serve as a catalyst for regional development by using labor from Java to remove the obstacles to regional development and to mobility of labor arising from inadequate infrastructure; and offer migrants, both officially sponsored transmigrants and voluntary migrants, opportunities for employment as wage earners rather than as smallholders".<sup>/15</sup>

4.22 Costs, administrative and managerial problems,<sup>/16</sup> availability of land, lack of proper land titles,<sup>/17</sup> conflicts on land ownership with the local people and related factors are one set of constraints. There are others relating to the preferences of those who genuinely are interested in migrating. A study on migrant preferences found that "Village people are reluctant to settle in places where there are no friends or relatives and about which they have little information."<sup>/18</sup>

4.23 Issues in Migration and Transmigration: Net inter-island movement from Java to the Outer Islands would have been insignificant in the absence of the officially sponsored transmigration. It appears, therefore, that in its pursuit of the long-term objective of controlling population density and

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<sup>/13</sup> World Bank, Indonesia: Transmigration Program Review, 1981.

<sup>/14</sup> The basic idea that a program of transmigration should be an integral part of regional development was explicitly stated in Law No. 3 of 1972 and was incorporated in the Second and Third Five Year Plans.

<sup>/15</sup> See H.W. Arndt and R.M. Sundrum, "Transmigration: Land Settlement or Regional Development?" B.I.E.S., November 1977, pp.72-90.

<sup>/16</sup> The Department of Information, Internal Affairs, Public Works, Communications, Health, Education, Religion, Social Affairs, Finance, Agriculture and Transmigration, and of course, Bappenas are all involved in transmigration. One can imagine the complexity of the coordination task involved.

<sup>/17</sup> Indonesian business leaders often voiced concern that the short validity of land-titles and the time consuming redtape in land acquisition remained the main obstacles to private investments in estate agriculture. Land titles are given for 30 years in Indonesia as against 90 years in Malaysia and Philippines, for example.

<sup>/18</sup> Ida Bagus Mantra, Population Movement in Wet-Rice Communities, Yogyakarta: Gaja Mada University, 1981, p.175.

reducing poverty on Java, the Government will have to continue to provide some incentives for migration from Java. So far, in the Government transmigration program, each settler family was provided with free transportation to the site, land for cultivation, some agricultural inputs and allowances in cash/kind for an initial settling-in period. It is not entirely clear whether the future programs can continue to provide such a costly package. A more important question is whether alternative strategies can be more effective in promoting migration and ensuring settler welfare. For instance, the Government could "free" the land in the Outer Islands from the customary ownership rights, improve access to such land and permit its purchase by the Javanese. Another possibility is, migration can be encouraged by promoting the development of urban growth centers in the Outer Islands. These and other policy options in migration should be the subject of a special study.

#### Labor Force and Employment Developments in the 1970s and the 1980s

4.24 The spatial developments in employment and labor force in the 1970s are briefly considered in this section. The regional GDP and employment growth rates by sector are given in Table 4.9. Java, Sulawesi and E. Islands have had reduced labor absorption (in terms of number of persons) in agriculture. Sumatra and Kalimantan did better. Sumatra had the highest rate of growth of agricultural employment, where during 1971-80, agricultural employment increased by a million persons. Forty percent of this increase was in Lampung. Transmigration had definite direct impact on agricultural absorption. The transmigrant inflow into Sumatra was 639 thousand persons, of which many would be in the labor force and in agriculture. In Kalimantan, however, the increase in agricultural employment was 140,000 (as against the transmigration inflow of 187,000). In Sulawesi the figures were a reduction of 32,000 in agricultural employment despite the transmigrant inflow of 168,000. In the Eastern Islands the reduction in agricultural absorption was 29,000 and the inflow of transmigrants was 32,000. These numbers may not be highly accurate; but they portray a general overall tendency everywhere for agricultural jobs to contract, which was countered most effectively in Sumatra by the transmigration program. Elsewhere, transmigration magnitudes were not yet large and did not fully counter the declining agricultural absorption.

4.25 Industrial and service employment /19 increased at respectable rates in all regions. Industry absorbed 3 million more persons in 1980 compared to 1971. In Java about 2.1 million new jobs were available in industry: 0.7 million in West Java, 0.7 million in East Java, 0.5 million in Central Java and 0.2 million in Jakarta. This is a good regional spread of the industrial sector jobs. Similar spread was also noticed in all other regions. This spread is due to the evenness in distribution of construction and household and small scale industries. Services absorbed 5.3 million persons more in 1980 compared to 1971. Here also there was no particular regional bias. In the context of the 1970s, therefore, industry and services proved to be the labor absorbing sectors, and agricultural activities lagged behind in job creation. Industry and services are generally relatively more concentrated in urban areas.

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/19 Industry here includes mining, manufacturing, construction and utilities.

Table 4.9: AVERAGE ANNUAL GROWTH RATES OF SECTORAL GDP AND EMPLOYMENT BY REGION, 1971-80 /a

Region		Agriculture	Industry	Services	Total
Java	(a) GDP	2.17	11.20	8.26	6.62
	(b) EMP	-0.28	6.50	4.57	2.03
	(b) ÷ (a)	-0.13	0.58	0.55	0.31
Sumatra	(a) GDP	4.50	8.06	9.77	7.29
	(b) EMP	1.99	8.27	6.17	3.27
	(b) ÷ (a)	0.44	1.03	0.63	0.45
Kalimantan	(a) GDP	5.92	31.61	16.36	14.74
	(b) EMP	0.99	11.53	7.94	2.87
	(b) ÷ (a)	0.17	0.36	0.49	0.19
Sulawesi	(a) GDP	6.46	13.95	7.92	7.94
	(b) EMP	-0.20	5.49	5.18	1.57
	(b) ÷ (a)	-0.03	0.39	0.65	0.20
E. Islands	(a) GDP	5.31	28.64	9.42	9.25
	(b) EMP	-0.13	7.36	6.24	1.85
	(b) ÷ (a)	-0.02	0.26	0.66	0.20
Indonesia	(a) GDP	3.44	10.82	8.67	7.25
	(b) EMP	0.27	6.82	5.00	2.25
	(b) ÷ (a)	0.08	0.63	0.58	0.31

/a GDP growth rate for 1971-79 for the regions.

Consequently, in the 1970s urban employment grew at a higher rate compared to rural employment (Table 4.11) in each and every region of Indonesia. However, the urban/rural employment growth differential was the highest in Java (even when Jakarta was excluded), and relatively less in the Outer Islands.

4.26 Outlook for the Future: There are some hard facts Indonesia has to face on the employment front. An additional 16 million persons enter the labor force in the 1980s (Table 4.12) as against the 10 million in the 1970s. Given the recent tendency of the agriculture sector to absorb few additional people, almost all the new jobs in the 1980s will have to come from industry and services, which may be increasingly located in urban areas. This has important implications for urban growth. Indonesia's urban population in 1980 constituted 22% of total population as against an average of 45% in the middle income

Table 4.10: ESTIMATED SECTORAL EMPLOYMENT 1971, 1980  
( '000)

Province	Agriculture		Industry		Commerce		Services		Total	
	1971	1980	1971	1980	1971	1980	1971	1980	1971	1980
DKI Jakarta	52	36	234	434	524	685	477	731	1,287	1,886
West Java	3,883	3,984	616	1,294	1,029	1,678	692	1,306	6,220	8,262
Central Java	5,374	5,324	1,014	1,533	1,236	1,665	803	1,206	8,427	9,728
D.I. Yogyakarta	612	641	196	201	161	179	107	185	1,076	1,206
East Java	6,804	6,320	704	1,409	1,370	1,925	978	1,466	9,856	11,120
<u>Total Java</u>	<u>16,725</u>	<u>16,305</u>	<u>2,764</u>	<u>4,871</u>	<u>4,320</u>	<u>6,132</u>	<u>3,057</u>	<u>4,894</u>	<u>26,866</u>	<u>32,202</u>
D.I. Aceh	494	576	30	55	52	82	50	98	626	811
North Sumatra	1,730	1,936	116	230	219	366	207	344	2,272	2,876
West Sumatra	641	666	58	105	104	159	94	137	897	1,067
Riau	372	401	48	83	56	89	50	94	526	667
Jambi	269	345	12	39	30	47	24	52	335	483
South Sumatra	878	1,038	96	166	135	211	94	172	1,203	1,587
Bengkulu	154	221	3	13	7	16	11	23	175	273
Lampung	757	1,142	22	96	62	142	61	121	902	1,501
<u>Total Sumatra</u>	<u>5,295</u>	<u>6,325</u>	<u>385</u>	<u>787</u>	<u>665</u>	<u>1,112</u>	<u>591</u>	<u>1,041</u>	<u>6,936</u>	<u>9,265</u>
West Kalimantan	777	771	19	51	37	69	28	70	861	961
Central Kalimantan	169	263	7	27	9	31	16	34	201	355
South Kalimantan	425	430	35	77	76	112	59	94	595	713
East Kalimantan	133	180	15	48	23	70	27	67	198	365
<u>Total Kalimantan</u>	<u>1,504</u>	<u>1,644</u>	<u>76</u>	<u>203</u>	<u>145</u>	<u>282</u>	<u>130</u>	<u>265</u>	<u>1,855</u>	<u>2,394</u>
North Sulawesi	366	359	37	83	43	83	71	117	517	642
Central Sulawesi	250	293	25	38	15	31	27	444	317	406
South Sulawesi	985	932	129	185	168	233	143	214	1,425	1,564
Southeast Sulawesi	203	188	13	24	12	26	13	27	241	265
<u>Total Sulawesi</u>	<u>1,804</u>	<u>1,772</u>	<u>204</u>	<u>330</u>	<u>238</u>	<u>373</u>	<u>254</u>	<u>402</u>	<u>2,500</u>	<u>2,877</u>
Bali	512	464	65	150	93	163	64	144	734	931
West Nusa Tenggara	514	472	80	141	91	152	58	101	743	866
East Nusa Tenggara	812	767	66	112	20	31	60	84	958	994
Maluku	240	280	9	18	13	32	30	60	292	391
Irian Jaya	197	262	13	24	9	17	36	47	255	350
<u>Total E. Islands /a</u>	<u>2,391</u>	<u>2,362</u>	<u>248</u>	<u>470</u>	<u>250</u>	<u>426</u>	<u>265</u>	<u>462</u>	<u>3,154</u>	<u>3,720</u>
<u>Total Indonesia</u>	<u>27,719</u>	<u>28,408</u>	<u>3,677</u>	<u>6,661</u>	<u>5,618</u>	<u>8,325</u>	<u>4,297</u>	<u>7,064</u>	<u>41,311</u>	<u>50,458</u>

/a Unspecified.

Table 4.11: ANNUAL AVERAGE RURAL AND URBAN EMPLOYMENT GROWTH 1971-80

Region	Rural (%)	Urban (%)	Urban/rural growth ratio
Java	1.1	6.2	5.6
Java excluding Jakarta	1.1	7.0	6.4
Sumatra	3.0	4.9	1.6
Kalimantan	2.7	3.6	1.3
Sulawesi	1.5	1.9	1.3
E. Islands	1.6	4.7	2.9
<u>Indonesia</u>	<u>1.6</u>	<u>5.6</u>	<u>3.5</u>

Table 4.12: LABOR FORCE ESTIMATES AND LABOR FORCE GROWTH BY REGION 1971-90

Region	1971	1980	1990	Average Annual Growth (%)	
	('000)	('000)	('000)/a	1971-80	1980-90
Java	27,325	32,776	40,869	2.04	2.23
Sumatra	7,267	9,392	13,389	2.89	3.61
Kalimantan	1,886	2,431	3,202	2.86	2.79
Sulawesi	2,541	2,968	4,748	1.74	4.81
E. Islands	3,230	3,774	4,950	1.74	2.75
<u>Total</u>	<u>42,249</u>	<u>51,341</u>	<u>67,158</u>	<u>2.19</u>	<u>2.72</u>

/a These are rough and ready estimates obtained by allocating the estimated national labor force among the regions. The allocation was in proportion to the projected regional male and female population in the 15-64 age group.

countries and 78% in the industrial countries./20 There is a clear likelihood of further urban growth in Indonesia in general and the Outer Islands in particular where the level of urbanization is low compared to Java./21 The process, however, can be assisted by government initiatives to develop centers of urban and regional growth within the various provinces of the Outer Islands. Indeed, such initiatives can be complementary to transmigration, and can promote voluntary migration from Java to the Outer Islands, based on development of employment and business opportunities in the non-agricultural fields. Often, they may take the form of establishing industrial estates or export processing zones. Once established, they can serve as the centers for the growth of a variety of additional opportunities in professional and personal services.

4.27 Of the 16 million new entrants into the labor force in the 1980s, half will be in Java, a quarter in Sumatra and a quarter in the rest of the country. It is anticipated that the overall economic growth rate in Indonesia in the 1980s will be around 5 to 6 percent per annum./22 The application of the employment elasticity of 0.31 (Table 4.9) of the 70s to the 80s will yield an overall employment growth rate of 1.5% to 1.8%, way below the expected growth rate of labor force of 2.7%. Thus, nationally, overall economic growth in the 80s has to be relatively more employment oriented than during the 70s. Such a strategy is especially important for Java, where the rate of economic growth may not exceed 4.5% to 5% (commensurate with 5% to 6% nationally). Java's employment elasticity in the 70s was also 0.31. If this elasticity were to be assumed for the 80s, the anticipated employment growth rate is no more than 1.5%, far too low to absorb the labor force growing at 2.2%. On the other hand, if Java's employment elasticity were to be raised to 0.45 (same as the elasticity of Sumatra in the 70s), then the employment growth rate in the 80s can equal the labor force growth rate, and serious unemployment problems can be avoided./23 The employment elasticities in Kalimantan, Sulawesi and Eastern Island were equally very low at 0.20 in the 70s. It reflects a growth strategy that is not particularly employment oriented, and needs to be modified in the future, especially in regard to Sulawesi and E. Islands which have fairly high rates of poverty incidence and where annual economic growth rate in the 80s may be in the 8%-10% range.

4.28 The need of the 80s is an employment oriented development strategy for the different regions. A first step to initiate such a process will be to review the various government policies to identify the constraints, if any, to labor-intensive growth of different sectors and the removal of such constraints.

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/20 World Development Report, 1982.

/21 In Java in 1980, urban population was 25% of total population, as against 20% in Sumatera, 21% in Kalimantan, 16% in Sulawesi, and 12% in Eastern Islands.

/22 See World Bank, Country Economic Memorandum for Indonesia, 1983.

/23 Very high rates of educational expansion can alleviate the unemployment problems of the immediate short-term. For illustrative projections, see Annex 2, Part II.

## CHAPTER 5

### REGIONAL FINANCES AND PLANNING

#### Introduction

5.01 Scope of this Chapter: An important instrument in the hands of the Government is the budget. Expenditure allocations by category (current/capital), sector of activity and location have important effects on promoting regional development. They are recognized as a means by which inter-regional differentials in levels of development (especially social development) can be reduced. This chapter, therefore, attempts an analysis of recent data on regional public finances and draws some inferences.

5.02 In Indonesia, as in other developing countries, like India, Malaysia and the Philippines, regional planning agencies have begun to play an increasingly important role in the process of formulating regional investment proposals which are subsequently incorporated into national and regional budgets. Hence, this chapter contains a brief description of the evolution of the regional planning institutions in Indonesia and some of the approaches taken in recent years to enhance their effectiveness.

5.03 The Levels of Government and the Administrative Structure: Indonesia's provinces represent the Daerah Tingkat I or first stage regions. The regencies/municipalities (kabupaten/kotamadya) are referred to as Daerah Tingkat II or second stage regions. Most central Government sectoral ministries (known as departments in Indonesia) have branch offices at the provincial level. The offices are known as Kantor Wilayah Propinsi (KANWIL). At the level of kabupaten/kotamadya, such branch offices are known as Kantor Departemen Kabupaten/Kotamadya (KANDEP). The KANWIL and KANDEP are staffed by central Government officials. Their operations are financed by the central Government budget.

5.04 The regional government administrations at the provincial and re-gency levels comprise separate legislative and executive arms. The legislative arms are the "people's representative regional councils" and consist mainly of elected representatives. The executive arms are headed by "regional heads" (Kepala Daerah) appointed by the President or on his authority by the Minister of Home Affairs on the nomination of the regional councils. The various regional government activities are carried out by "service departments" or "dinas" within the executive arms of the regional administrations.

5.05 Coordination: Heads of regional administrations exercise a dual role. They are the leaders of the executive branches of the autonomous regional governments; they are also the local representatives of the President, to exercise overall control on the discharge of all Government functions in their areas and in particular to coordinate the work of all central and regional government agencies.

5.06 Role of the Regional Planning Boards: A particularly important coordination role of central and regional government programs is exercised by the "BAPPEDAs" (Regional Development Planning Boards) which have been established in every province and kabupaten/kotamadya. The BAPPEDAs have both annual and longer term planning functions in relation to regional development. Each year they prepare a schedule of development project proposals in all sectoral areas, for approval by regional heads and submission to central Government. Medium-term development planning in the regions is undertaken via regional five year plans covering a period coincident with the national five year plans (REPELITA).

#### Sources of Finance

5.07 Sources of Finance for the Central Government: Most, though not all, of the finance for central Government spending in the regions is provided through the national budget. The national budget is financed mainly from oil and non-oil tax revenues, international borrowing and other foreign aid./1

5.08 Sources of Finance for Regional Government: The sources of finance for the regional governments are: (a) central Government grants, (b) revenues assigned to the regions by central Government, (c) income from local taxes and service charges, and (d) miscellaneous income.

5.09 The main central grant on routine account is known as Subsidi Daerah Otonomi (SDO). The SDO meets the full cost of emoluments chargeable to routine account for regional government staff whose appointments are approved centrally. On development account, the central grants are made through the various INPRES /2 presidential allocations which are partly for the discretionary use of different levels of government (provinces, districts, and villages) and partly for specified uses. Assigned revenues consist, on routine account, of royalties on sales of gasoline (payable to provinces); and on development account, of royalties on forestry and mining (also payable to provinces), the land use taxes (payable mainly to second level authorities), and the cesses on cloves and copra sales (also payable to second level authorities, abolished since 1981). The main local taxes at the provincial level are those on ownership and transfer of motor vehicles; and at the second level, the hotels and restaurants tax, and entertainment tax. Service charges

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/1 The composition of the 1982/83 budget was, 59% from oil production revenue, 27% from non-oil taxes, 2% from non-tax revenues and 12% from foreign loans and aid.

/2 INPRES stands for Instruksi Presiden (Presidential Instruction). Inpres funds flow directly from the center to the various lower levels. At present, there are eight different types of INPRES grants, one for provinces, one for regencies, one for villages and the remainder for specific purposes (e.g., health, primary education, etc.).

are numerous, especially in second level regions where they are generally a larger source of income than local taxes.

5.09 All local taxes and charges are specified in national legislation, mainly in the laws made in 1956, 1957 and 1968. These laws describe the nature of the taxes and charges but not the rates. Rates are specified in local legislation enacted in each region. Local tax legislation is subject to the approval of the Ministry of Home Affairs for both provinces and second level regions, which consults the Ministry of Finance in cases where a tax is being introduced for the first time in a particular region. The same approval procedure applies for provincial service charges; however, for second level regions, service charges need only the approval of the provincial governors. In practice, many of the more important tax and charge rates are standardized nationally.

#### Central and Regional Fiscal Flows

5.10 Flows from the Center, 1976/77 and 1980/81: The central-regional financial relationships are displayed in matrix form in Tables 5.1 and 5.2 for 1976/77 and 1980/81 respectively. In 1976/77, the total income of all levels of government was Rp 4.1 trillion. Of this, 90% were receipts under the central account, and 10% under the regional accounts. The center used 75% of the total, and the regional authorities used the remainder. In 1980/81, the total government income was Rp 12.6 trillion. Central accruals amounted to 92% with only 8% collected by the regions. The center used 78% and distributed 14% to the regions. The regions thus depend to a large extent on the financial flows from the center. In 1976/77, the regions received 58.5% of their total income from the central Government, which rose to 63.6% in 1980/81.

Table 5.1: THE INTER-AUTHORITY FISCAL FLOWS MATRIX, 1976/77  
(in Rp Billion)

From/to	Central	Provincial	Level II	DKI Jakarta	Villages	Total
Central	3,052	293	225	20	55	3,645
Provincial	-	79	4	-	-	83
Level II	-	-	95	-	14	109
DKI Jakarta	-	-	-	53	2	55
Villages	-	-	-	-	112/a	112
Others /b	-	38	11	10	2	61
<u>Total</u>	<u>3,052</u>	<u>410</u>	<u>335</u>	<u>83</u>	<u>185</u>	<u>4,065</u>

/a Imputed value of physical (and factor) inputs.

/b Balances brought forward and loans.

Table 5.2: THE INTER-AUTHORITY FISCAL FLOWS MATRIX, 1980/81  
(in Rp Billion)

From/to	Central	Provincial	Level II	DKI Jakarta	Villages	Total
Central	9,862	879	750	56	50	11,597
Provincial	-	256	19	-	-	275
Level II	-	-	260	-	14	274
DKI Jakarta	-	-	-	113	1	114
Villages	-	-	-	-	145/a	145
Others /b	-	113	45	23	2	183
<u>Total</u>	<u>9,862</u>	<u>1,248</u>	<u>1,074</u>	<u>192</u>	<u>212</u>	<u>12,588</u>

/a Imputed value of physical (and factor) inputs.

/b Balances brought forward and loans.

5.11 Provincial Dependence on the Center: An Overview: Data on central grants to states or provinces (the first level regions) for six countries and for Indonesia for different years are given in Table 5.3. A number of observations may be made. The first level regions in Nigeria and Indonesia obtain over 70% of their total revenue from central grants. (Both countries derive a large portion of national revenue from oil.) Australian and Indian first level regions receive central grants amounting to 40% to 50% of regional revenues. Canada, USA and West Germany have relatively low proportions of grants to regions, at levels around 20%. In Australia, Canada, USA and India nearly 60% or more of regional current expenditures could be financed by regional revenues. In Indonesia, such "own resources" amounted to 47.7% of expenditure in 1973/74, but declined thereafter.

5.12 While it is true that a major part of regional income came from the central Government, the grant levels as percentages of revenue differ substantially by level of regional authority (Table 5.4). For the provinces (excluding Jakarta), the percentages were 76% and above. For kabupaten/kotamadya, they were between 64% and 71%. For DKI Jakarta, the percentage was generally less than 30% mainly because of Jakarta's unique situation in regard to mobilizing local (non-grant) revenues. The villages also have relatively low percentages of grants to total income, largely because of the villages' contribution of local manpower to development projects, and because of adding the imputed value of the manpower in village income.

**Table 5.3: INDICATORS OF REGIONAL FISCAL DEPENDENCE ACROSS COUNTRIES  
(First Level Regions Only)**

Country	Year	Own revenue as % of revenue expenditure	Central current transfers as % of total revenue
Australia	1964-65	57.2	42.3
	1974-75	44.3	55.1
Canada	1970	74.7	24.1
	1974	72.7	24.4
Nigeria	1964-65	n.a.	77.8
	1974	n.a.	71.3
USA	1970	83.6	18.1
	1977	85.5	23.0
West Germany	1962	n.a.	18.6
	1972	n.a.	14.7
India	1965-66	61.1	37.8
	1970-71	56.9	42.8
	1975-76	68.1	41.1
Indonesia	1973/74	47.7	62.3
	1974/75	31.2	72.2
	1975/76	24.6	77.2
	1976/77	34.8	69.9
	1977/78	27.3	76.3
	1978/79	29.3	74.1

Source: Raja Chelliah and Associates, Trends and Issues in Indian Federal Finance, New Delhi: Allied Publishers, 1981, pp. 43-44. For Indonesia: Basic data are from the Central Bureau of Statistics.

Table 5.4: CENTRAL GRANTS AS PERCENT OF TOTAL REGIONAL GOVERNMENT INCOMES /a BY LEVEL OF AUTHORITY (%)

	1976/77	1977/78	1978/79	1979/80	1980/81
All levels	61.7	64.4	64.7	65.0	67.7
Provinces	78.0	80.8	78.6	76.7	76.0
Level II	66.1	64.1	66.4	67.5	71.2
DKI Jakarta	24.5	28.1	28.6	37.4	31.5
Villages	29.8	27.7	27.7	25.0	23.6

/a Excluding balances brought forward from previous year.

Provincial Patterns of Revenue and Expenditure

5.13 Provincial Variations in Regional Non-Grant Revenues: Excluding capital balances brought forward, which are likely to be random in quantum, the range of per capita revenue in 1980/81 was Rp 2,400 in Central Java to Rp 56,000 in East Kalimantan, while the average for the whole country was Rp 5,700 (Table 5.5). The local revenues can hardly meet even the recurrent expenses. The provinces of Jakarta, Jambi, Central Kalimantan, East Kalimantan and Central Sulawesi can, if necessary, meet the routine expenditure with local resources. All the other provinces need central support for parts of the routine expenses as well. There is a high correlation of 0.82 between provincial per capita revenue and non-mineral GDP per capita. This relationship has an important implication. If regional government expenditures were to be totally dependent on regional revenues, then the regions with relatively higher GDP per capita could spend more on social and economic development and those with lower GDP per capita would spend less. These processes could exacerbate the problems of regional economic and social disparities. To prevent such an outcome, grants from the central Government can, to some extent, fill the gap between regionally needed expenditures and regionally obtained revenues. Such an operation would on the

**Table 5.5: REGIONAL GOVERNMENT (PROVINCE AND LEVEL II) NON-GRANT REVENUES, 1980/81**  
(Rp per Capita)

Province	All Ipeda	Local taxes	Local service charges + dinas	Other income	Total
DKI Jakarta	894	11,508	2,400	5,799	20,601
West Java	323	932	495	2,004	3,754
Central Java	336	872	507	693	2,408
Yogyakarta	251	1,289	617	2,939	5,096
East Java	458	1,030	433	1,166	3,087
Aceh	840	1,349	809	3,889	6,887
North Sumatra	859	1,799	731	3,101	6,490
West Sumatra	318	1,209	677	2,836	5,040
Riau	1,393	1,581	540	4,885	8,399
Jambi	951	1,063	441	7,609	10,064
South Sumatra	1,072	1,551	326	3,148	6,097
Bengkulu	318	818	282	3,246	4,664
Lampung	309	716	371	1,829	3,225
West Kalimantan	580	859	423	8,029	9,891
C. Kalimantan	3,812	336	1,057	20,206	25,411
South Kalimantan	594	984	1,011	7,013	9,602
East Kalimantan	5,297	2,954	1,281	46,648	56,180
South Sulawesi	369	1,226	813	4,074	6,482
Southeast Sulawesi	552	586	454	8,236	9,798
Central Sulawesi	515	754	471	10,907	12,647
North Sulawesi	314	1,454	841	4,362	6,971
Bali	427	2,772	590	3,306	7,095
West Nusa Tenggara	264	330	430	1,364	2,388
East Nusa Tenggara	234	266	939	4,830	6,269
Maluku	1,168	659	507	9,011	11,345
Irian Jaya	614	700	625	5,484	7,423
Total Indonesia	555	1,533	629	2,966	5,683
Total excluding DKI Jakarta	539	1,071	547	2,866	5,023

one hand call for an adequate growth of central revenues <sup>/3</sup> and on the other, an appropriate grant fixing mechanism. In the remainder of this part of this chapter, the provincial expenditure variations are analyzed and the variation in grant allocations are reviewed.

5.14 Development Expenditure in the Provinces: Table 5.6 has data on the central Government development expenditure in the regions (Column 1) in 1980/81. Central spending per head of population varied widely from a low Rp 4,902 for East Java to a high Rp 36,618 for Southeast Sulawesi (ignoring DKI Jakarta which includes a lot of expenditure on general administration, etc.). There is a tendency for the per head allocations to fall with rising population (the correlation coefficient was -0.6). Turning to regional government's spending on development account (including spending under INPRES programs), a similarly wide range of per head figures is revealed, from Rp 3,285 for Central Java to Rp 27,444 for East Kalimantan (a rather extreme case). Again there was a fair negative correlation with population size (coefficient once again was -0.6). Total central and regional expenditures have a high degree of correlation between the two principal components of these totals, namely, central sectoral spending and INPRES grants. Excluding DKI Jakarta, <sup>/4</sup> the correlation coefficient is 0.9. Clearly any inequities in the distribution of central department spending were not offset by variations in INPRES grants.

5.15 Routine Expenditure in the Provinces: Routine account spending of regional authorities also shows considerable variation ranging from Rp 7,050 for Central Java to Rp 27,663 for Irian Jaya (although there are clearly special circumstances favoring Irian Jaya). Regional routine spending is dominated by staff expenses (generally about 70% of the total), which are largely met by the central Government grant. One would not in theory expect much correlation between routine subsidies and levels of regional government non-grant income. In fact, however, there was a fair degree of positive correlation between the per head measures of the two (coefficient about 0.6 when DKI Jakarta, East Kalimantan and Irian Jaya were excluded as outliers)

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<sup>/3</sup> The issue of adequate growth of central revenue is critical now more than ever before because of the uncertain prospects for the growth of oil revenues. The subject of possible ways to step up non-oil revenues has been receiving government attention. In that context, greater attention can be given to enhance the growth of regional revenues also. The scope for increasing local revenues is discussed in detail in Annex 3. In the short-run, however, regions will continue to depend on the central Government grants to a large extent. But, there may well be relatively greater scope for cost recovery in regard to specific urban services. See the Bank's Urban Sector Report of 1983 for a detailed review of the relevant issues and prospects.

<sup>/4</sup> DKI Jakarta is excluded because of its very high level of expenditure and East Timor because of paucity of all relevant data.

Table 5.6: PER CAPITA DEVELOPMENT AND ROUTINE EXPENDITURES  
BY PROVINCE, 1980/81

Province	Development (Rp/head)				Routine (Rp/head)	
	Central direct spending + foreign aid, etc.	Inpres grants	Local govern- ment contri- bution	Total	Central Govern- ment subsidy	Total expen- diture
DKI Jakarta	94,031	2,042	11,184	107,257	6,690	12,086
West Java	8,1786	3,015	1,464	12,655	6,353	7,821
Central Java	4,967	2,830	455	8,252	6,305	7,050
DI Yogyakarta	10,801	4,697	3,014	17,792	9,084	10,719
East Java	4,902	3,022	1,271	9,195	5,479	6,435
Aceh	19,467	6,849	2,594	28,910	8,069	9,102
North Sumatra	10,908	5,034	2,628	18,570	8,530	10,566
West Sumatra	17,400	5,653	1,863	24,916	7,563	8,880
Riau	23,557	7,292	2,259	33,108	10,187	13,238
Jambi	26,864	9,497	2,854	39,215	7,541	10,389
South Sumatra	18,131	6,507	2,483	27,121	5,276	7,030
Bengkulu	34,319	14,185	610	49,114	8,106	9,303
Lampung	8,293	4,629	656	13,578	7,038	8,103
West Kalimantan	13,756	8,339	2,429	24,524	8,267	12,754
Central Kalimantan	21,794	13,075	5,817	40,686	11,359	19,106
South Kalimantan	22,712	7,804	4,146	34,662	10,266	10,983
East Kalimantan	25,344	10,431	17,013	52,788	8,007	19,812
South Sulawesi	9,754	4,968	2,641	17,363	7,045	10,037
Southeast Sulawesi	36,618	13,523	4,776	54,917	10,177	12,557
Central Sulawesi	20,110	10,896	2,669	33,675	8,973	12,275
North Sulawesi	16,364	7,920	3,337	27,621	13,609	14,794
Bali	12,288	6,889	1,258	20,435	8,220	9,432
West Nusa Tenggara	10,342	5,692	195	16,229	6,536	7,260
East Nusa Tenggara	9,805	5,704	1,546	17,055	11,406	16,291
Maluku	16,275	8,801	3,543	28,619	8,998	13,146
Irian Jaya	28,016	11,365	3,117	42,498	27,197	27,663
Total: Indonesia (Percentage]	13,667 (68)	4,465 (22)	2,105 (10)	20,237 (100)	7,111	8,934
Total, excluding DKI Jakarta (Percentage)	9,961 (61)	4,577 (28)	1,686 (10)	16,224 (100)	7,130	8,789

**Table 5.7: SOURCES OF FINANCE FOR DEVELOPMENT AND ROUTINE EXPENDITURES BY PROVINCE, 1980/81**

Province	Per capita Non grant income (Rp)	Regional Government Expenditure			
		Development A/C	Routine A/C	Total	Grants
		Grants to regional development expenditure	Grant to regional routine expenditure	to total regional routine & development expenditure	Grants to regional routine & development income
		(%)			
DKI Jakarta	20,601	15.4	55.4	34.5	29.8
West Java	3,754	67.3	81.2	76.2	71.4
Central Java	2,408	86.1	89.4	88.4	79.1
DI Yogyakarta	5,096	67.2	84.7	74.8	73.0
East Java	3,087	70.4	85.1	79.2	73.4
Aceh	6,887	72.5	88.7	80.4	68.4
North Sumatra	6,490	65.7	80.7	74.4	67.6
West Sumatra	5,040	75.2	85.2	80.6	72.4
Riau	9,027	76.3	77.0	79.5	65.9
Jambi	10,064	75.8	72.6	74.9	62.9
South Sumatra	6,097	72.4	75.0	73.6	65.9
Bengkulu	4,664	95.9	87.1	92.5	82.7
Lampung	3,315	87.6	86.9	87.1	77.9
West Kalimantan	9,891	77.4	64.8	70.6	62.7
Central Kalimantan	25,411	68.8	59.5	64.3	49.0
South Kalimantan	9,602	65.3	93.5	78.8	65.3
East Kalimantan	56,180	38.0	40.4	39.0	24.7
South Sulawesi	6,482	65.3	70.2	68.1	65.0
Southeast Sulawesi	9,798	73.9	81.0	76.8	70.8
Central Sulawesi	12,647	80.3	73.1	76.9	61.1
North Sulawesi	6,971	70.4	92.0	82.6	75.5
Bali	7,095	84.6	87.2	85.9	68.0
West Nusa Tenggara	2,388	96.7	90.0	93.0	83.7
East Nusa Tenggara	6,269	78.7	70.0	72.7	73.2
Maluku	11,345	71.3	68.4	69.8	61.1
Irian Jaya	7,423	78.5	98.3	91.5	83.9
Total Indonesia	5,710	68.0	79.6	74.7	67.0
Total excluding DKI Jakarta	5,023	73.1	81.1	77.8	70.0

which would appear to indicate that provinces with relatively high local resources tend to receive higher staffing approvals, higher routine grants, and therefore bring about possible inequity in overall distribution of expenditures.

5.16 Central Grants and Expenditures: The above discussion naturally leads to an assessment of the degree of central grant support which has been financing the widely differing amounts of spending per head of population, and its relationship to the size of local revenue resources. Table 5.7 sets out the per capita non-grant income receipts (routine and development) by province and percentages of central grants in development, routine and total expenditure as well as total income. Except Jakarta, Central Kalimantan and East Kalimantan, grants are a major source of funds for regional expenditures. A statistically significant correlation was found between per capita non-grant income and per capita INPRES grants. Here also, the better-off provinces appear favored.

#### A New Approach to Determining the Levels of Central Grants

5.17 The Need for a New Approach: The analysis reported above suggests that there is a prima facie case that the grant system has been favoring many authorities which ought to be able to finance more of their expenditures from local resources. It is time that an appropriate approach be devised and implemented for determining central grants. A good grants system should have the following characteristics: (i) assessment of the relative needs for expenditure on public services in each regional authority; (ii) consideration of the differences between regions in the ability to finance expenditures from local revenues, and (iii) incentives for regions to improve the yields from local revenues.

5.18 Elements of the New Approach: It is expected that the grant determination process would take into account the current spatial differentials in levels of public services (roads, communications, health, education, water supply, etc.) and would stress the provision of services to a common standard throughout the nation. There are basically two alternative approaches for determining central grants: one based on development potentials of each region and the other based on regional needs. The second may be useful for grant allocation to social sectors. Then the following steps could provide the elements of a sound approach to grant distribution: (a) estimate for each service the annual expenditure needs by region for raising the level of services to the chosen national standards over a planning period; and (b) deduct from this the estimated local resources available in the region. The result would be the central grant payable to the region each year for the plan period. Needs targets over the plan period would be chosen so that the total of central grants so payable summed to the total grant available for distribution. This method, while providing full compensation for resource shortfalls, would not provide an incentive to raise local revenues. To overcome this, modifications have to be made. Possibilities are: (i) paying only a proportion (say 80%) of the full equalization grant (amount), so that the full service standards can only be achieved by extra revenue effort; and (ii) reserving an amount of central grant for separate distribution as a local incentive grant, linked to revenue-raising. The pros and cons of establishing an approach such as the one described should be reviewed.

5.19 Implementing the Change: A fundamental change in approach of the kind put forward above would have to be implemented gradually in order not to greatly upset the existing grant distribution pattern too rapidly. Indeed it may be considered desirable to implement such a new system in a partial way. For instance, the new system could be applied only to certain specific services which readily permit the adoption of national target standards, and which are judged of sufficient national importance for the application of such a treatment. Health and educational services could be so treated. In this connection it would be necessary to identify the elements of regional government revenue to be taken into account in the grant calculations. These would clearly include charges levied for the particular services; in addition a proportion of general local revenues would need to be identified as notionally available for their finance. Another alternative is to employ initially a resources equalization grant only, without trying to compensate for needs differences. This might, for example, be an amount calculated as required to bring a region's resources per head of population up to some specified proportion of the national average. An incentive system to raise local revenues could be grafted on to such a grant.

#### Financial Administration

5.20 Multiple Source Financing: The diversity of sources and channels of finance for regionally provided public services poses many problems of coordination and program management. Part of the explanation for the multiplicity of financing channels lies in the fact that responsibility for many regionally provided services is divided between the central Government sectoral agencies and the regional governments, each with their own financing sources. The areas of responsibility could be more clearly divided among them, after a sector by sector review of the present situation. Again, the availability of finance from separate national, local and foreign sources means some inevitable diversity of funding channels. However, there would appear to be considerable scope for simplification within these constraints. Within the central government sectoral areas, there seem to be few strong arguments for the separation of development finance into development project funds (DIP), supplementary budget (ABT) crash program and foreign aid channels right down to the regional project teams; it ought to be possible to combine these various sources centrally into single parcels of finance provided through consolidated budget allocations to each sectoral program or project at the regional level. Such an approach would automatically allow a degree of central program coordination at the time of preparation of the annual budget, and permit a single system of accounting for use of central funds rather than the existing situation in which separate reporting and accounting procedures are employed in relation to each financing channel. Within the area of regional government activities, matters might similarly be simplified if the INPRES grants were regarded as contributing to the financing of the regional programs along with finance from local revenue sources, entering the main regional budgets rather than having to be accounted for separately as at present.

5.21 Planning and Budgeting: Regional planning agencies have the responsibility for the preparation of plans as well as annual development budgets. Regional Five Year Plans drawn up in the past had several major weaknesses. Often, they were prepared with little regard to the availability of central Government approval and had no central commitment to the proposals on levels and allocation of resources. They were not action plans. There was no firm programming for development projects. Finally, they were static plans; they were not revised during the five year period to take account of changed circumstances. A system of rolling plans may be useful in integrating annual budgets and medium-term plans.

### Regional Planning Agencies

5.22 Regional development planning in Indonesia is strongly influenced by the archipelago nature of the country, the distribution of its population and natural resources, its cultural diversity, the nature of its historical development and its political system. In this context it is not difficult to understand why the New Order regime has increasingly stressed regional development and regional integration. The First Five-Year Plan, 1969-74, gave explicit priority to economic growth, stabilization and rehabilitation of infrastructure that has been neglected for decades. Infrastructure rehabilitation efforts were set in motion through the INPRES programs which were a means of sharing Central Government revenues with lower level governments through a system of flexible direct subsidies.<sup>/5</sup> The period also witnessed the emergence of the National Planning Board (BAPPENAS) as the pivotal national agency concerned with development planning, establishment of regional planning boards (BAPPEDA), and the initiation of a series of regional development studies intended to provide background information and alternative strategies for regional planning.

5.23 The Second Five Year Plan, 1974-79, continued the earlier emphasis on national economic growth and stabilization. Greater attention was given to regional development in the recognition that the benefits of a stable and strengthened national economy would have to be shared throughout the country. The BAPPEDAs served to promote awareness of fundamental regional development issues as well as the legitimacy of regional development planning as an important governmental function. A major initiative of the second Five-Year Plan was the promulgation of a regionalization concept by dividing the country into four planning regions. Regional budget consultations were started on an annual basis in each of the four planning regions for the pro-

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<sup>/5</sup> The INPRES programs represent an innovation that is itself of international significance for regional development. For a description of the early program, see Y.B. de Wit. "The Kabupaten Program". Bulletin of Indonesian Economic Studies. Vol. IX, No. 1, March 1973. The best up to date description of the INPRES programs is provided in an unpublished paper - "INPRES: A Case Study of Financing Local level Development," presented by the Directorate General for Regional Development, Ministry of Home Affairs at the Seminar on Regional Development in ASEAN countries, Bali; September 22-25, 1982.

vincial BAPPEDAs, representatives of BAPPENAS and the central line agencies. These consultations marked the initiation of the Indonesian budget cycle, and the BAPPEDAs returned to their respective provinces to work with local agencies on preliminary project proposals for the upcoming fiscal year. National consultations took place in October of each year in Jakarta for the BAPPEDAs from each province to bring in their annual budget proposals for discussion with BAPPENAS and the central line agencies.

5.24 During the Second Plan period, a number of regional development studies were commissioned with foreign assistance. Sixteen of these, covering most of the country, were carried out at a cost of about \$20 million. These studies served to provide useful background information and identified broad development strategies for most of the subject regions.

5.25 Indonesia's Third Five-Year Plan, 1979-84 provided further impetus to the evolution of regional development planning. A "trilogi pembangunan" (development trilogy) was set out ordering the national goals as development, equity, economic growth and stability. A significant feature was that the goal of "developmental equity" included spatial equity with strong implications for regional development planning.

5.26 The Fourth Five-Year Plan, 1984-89, is currently taking shape, but it is already clear that the "trilogi pembangunan" of the Third Plan will remain in effect unchanged. Government officials responsible for preparing the new Plan's Chapter on regional development do not expect major changes in the seven principles that guided the Third Plan. There are indications, however, that major new initiatives will be taken in at least four areas: (1) upgrading of regional management roles and capacities; (2) relatively higher level of sub-national revenue autonomy; (3) development of regional budget consultations, and (4) investment identification and development activities led at the provincial and district levels. Most of these activities require strengthening of the capabilities of the regional planning agencies. The following case study illustrates the need for some form of technical assistance to the BAPPEDA.

#### Development Planning: The Case of NTB Province /6

5.27 As noted earlier, the movement towards planned regional development began with the preparation of a number of regional studies. In the specific case of NTB, the province was covered as part of the Eastern Indonesia Regional Development Study which included NTB, NTT and Maluku. The study was undertaken in 1974, with the assistance of the Canadian International Development Agency. The final output was reported in 16 volumes which included several sector studies and an outline of a development strategy for the region.

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/6 The province is one of the poorest in Indonesia. A description of the economy and its problems and the outline of development strategy are given in Part II of Volume IV.

5.28 The task of translating the many initiatives recommended in the study into investment proposals which can go through the budgetary process was by no means easy or straightforward. The competence to do this did not exist either at the national or the provincial level. It was obvious that further help was needed, and the Government sought technical assistance for this purpose. This resulted in the UNDP-funded and IBRD-executed project for "Regional Planning and Preparation of Investment Oriented Projects in the Provinces of Nusa Tenggara Barat and Nusa Tenggara Timor", commonly referred to as the "PPIP" project after its Indonesian title.

5.29 The main objective of the project was to develop, within an overall strategy, a series of well-prepared investment proposals for implementation and in the process strengthen the BAPPEDAs' capability for project preparation and monitoring. The technical assistance enabled the BAPPEDAs, working with the provincial offices of line agencies, to strengthen several dozen project proposals submitted through regular GOI channels for domestic funding. In addition, as many as 22 proposals have been brought into the pipeline, several of them quite large and covering both NTB and NTT provinces. These proposals are in the areas of smallholder cotton development, development of livestock, onshore marine fishery, development of rain-fed agriculture, social forestry, integrated area development, expansion of commercial tree crops, watershed rehabilitation, irrigation development on the island of Sumbawa, improvements to harbors and ferries, tourism promotion, industrial promotion including agro-processing and a health improvement project.

5.30 The project has aroused considerable interest locally as an effective means of regional development planning and investment generation. Three achievements in this field are worthy of special note. First, through the preparation of Blue Book /7 proposals each year, the project has given a new dimension to the dialogue among sector ministries, the local governments and BAPPENAS. Secondly, there is the interest created among aid donors in the projects that are being processed by means of an annual donor agency meeting under the auspices of the UNDP. The latter has helped to secure tentative donor commitment to assist the implementation of projects in the pipeline. Third, and perhaps most important, the technical assistance has helped the province to assume a significant and growing role in establishing project pipelines for the regular Indonesian budget process. In these ways, the project helped to elevate the annual budget preparation process into a channel for achieving long-term objectives.

#### Lessons of Experience

5.31 The PPIP project has demonstrated that the development of a region, in this case a province, can be planned systematically. At the provincial level the local government has come to appreciate the value of viewing the long-term development of the area as a totality and preparing its annual plans within such a framework. The latter step has been initiated mainly through

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/7 The Blue Book compilation of requests for external assistance is put out annually by BAPPENAS.

the budget process during the last two years (1981/82 and 1982/83) and hopefully with the roster of prepared projects now made available, could be followed through in the coming years. The effectiveness of this approach is already shown from the national level willingness to respond well to NTB requests for funding and assistance. Within the province, the BAPPEDA has assumed a strong position in planning and budgeting and in coordinating intersectoral matters.

5.32 At the national level, the province has obtained greater attention and concrete steps towards decentralization of some of the key planning and coordinating functions are visible. Consultation with the BAPPEDA is now closer and frequent. The donor community now has access to a roster of identified projects in the BAPPENAS Blue Book, some of them more ready for external assistance.

5.34 Regional planning agencies can benefit greatly from technical assistance and training relating to the identification of development potentials, formulating development strategies and preparing investment proposals. A new round of studies of regional development potentials aimed at developing not only broad strategies but also detailed project pipelines would be timely, and could be undertaken during the early part of the Fourth Five Year Plan. As the capacities of the regional agencies are improved, there is greater chance for improving the overall efficiency of resource use in each region and for preparing the ground for eventual reduction of spatial disparities.

REGIONAL POVERTY LINES AND POVERTY MAGNITUDES

Poverty: The methodology of construction of poverty lines for 1980 was explained in detail in a separate paper.<sup>/1</sup> There it was suggested that an essential minimum food expenditure could be estimated as the value of 16 kg of rice per capita per month times a factor of 1.25 to take care of non-rice food items. At the estimated level of minimum food expenditure, the ratio of food to total expenditure was read directly from tabulations on consumer expenditure distributions from the 1980 socio-economic survey of households (SUSENAS). The ratio was used to obtain the poverty line from per capita food expenditure. This procedure was separately applied to the rural and urban areas of each province. The poverty line computation is shown in Tables 1 and 2 of this Appendix. Poverty incidence and the size of the poverty group are given in Tables 3 through 5.

Deprivation: An attempt is also made to measure the size of the population in deprivation, those whose food demands are not satisfied. The rationale behind the methodology was explained elsewhere.<sup>/2</sup> Briefly the concept of deprivation relies on finding, within a consumer expenditure distribution, the point at which the proportion spent on food (psf) ceases to increase and starts to decline smoothly. The Central Bureau of Statistics prepared special tabulations of consumer expenditure distributions by 17 expenditure groups for each province and by rural and urban along with the psf for each group. The data were used to measure the size of the deprived population, that is, the population up to the point on the expenditure distribution from where psf declines. These results are also given in Tables 3 through 5.

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/1 Poverty in Indonesia: Trends, Associated Characteristics and Research Issues, (draft, August, 1983).

/2 Ibid.

Table 1: COMPUTATION OF POVERTY LINES FOR THE RURAL AREAS  
OF THE INDONESIAN PROVINCES, 1980

Province	Price of rice per kg	Value of 16 kg of rice	Value of rice x 1.25 (food expenditure)	Food to total expenditure ratio	Poverty line per capita per month
West Java	198	3,168	3,960	0.75	5,280
Central Java	188	3,008	3,760	0.68	5,529
D.I. Yogyakarta	196	3,136	3,920	0.63	6,222
East Java	178	2,848	3,560	0.67	5,313
D.I. Aceh	206	3,296	4,120	0.79	5,215
North Sumatra	213	3,408	4,260	0.74	5,757
West Sumatra	212	3,392	4,240	0.78	5,436
Riau	221	3,536	4,420	0.75	5,893
Jambi	208	3,328	4,160	0.72	5,778
South Sumatra	227	3,632	4,540	0.73	6,219
Bengkulu	232	3,712	4,640	0.74	6,270
Lampung	214	3,424	4,280	0.74	5,784
West Kalimantan	224	3,584	4,480	0.82	5,463
Central Kalimantan	246	3,936	4,920	0.77	6,390
South Kalimantan	223	3,568	4,460	0.80	5,575
East Kalimantan	229	3,664	4,580	0.73	6,274
North Sulawesi	224	3,584	4,480	0.74	6,054
Central Sulawesi	222	3,552	4,440	0.76	5,842
South Sulawesi	221	3,536	4,420	0.77	5,740
South East Sulawesi	218	3,488	4,360	0.74	5,892
Bali	179	2,864	3,580	0.75	4,773
West Nusa Tenggara	192	3,072	3,840	0.76	5,053
East Nusa Tenggara	218	3,488	4,360	0.74	5,892
Maluku	239	3,824	4,780	0.71	6,732
Irian Jaya	162	2,592	3,240	0.64	5,062

Table 2: COMPUTATION OF POVERTY LINES FOR THE URBAN  
AREAS OF THE INDONESIAN PROVINCES, 1980

Province	Price of rice per kg	Value of 16 kg of rice	Value of rice x 1.25 (food expenditure)	Food to total expenditure ratio	Poverty line per capita per month
DKI Jakarta	216	3,456	4,320	0.59	7,322
West Java	211	3,376	4,220	0.67	6,298
Central Java	208	3,328	4,160	0.66	6,303
D.I. Yogyakarta	214	3,424	4,280	0.61	7,016
East Java	202	3,232	4,040	0.64	6,313
D.I. Aceh	211	3,376	4,220	0.76	5,553
North Sumatra	226	3,616	4,520	0.68	6,647
West Sumatra	239	3,824	4,780	0.69	6,928
Riau	226	3,616	4,520	0.69	6,551
Jambi	208	3,328	4,160	0.72	5,778
South Sumatra	218	3,488	4,360	0.66	6,606
Bengkulu	236	3,776	4,720	0.67	7,045
Lampung	226	3,616	4,520	0.64	7,062
West Kalimantan	216	3,456	4,320	0.75	5,760
Central Kalimantan	236	3,776	4,720	0.72	6,556
South Kalimantan	236	3,776	4,720	0.70	6,743
East Kalimantan	226	3,616	4,520	0.64	7,063
North Sulawesi	225	3,600	4,500	0.75	6,000
Central Sulawesi	217	3,472	4,340	0.69	6,290
South Sulawesi	220	3,520	4,400	0.70	6,286
South East Sulawesi	199	3,184	3,980	0.68	5,853
Bali	189	3,024	3,780	0.69	5,478
West Nusa Tenggara	196	3,136	3,920	0.74	5,297
East Nusa Tenggara	197	3,152	3,940	0.68	5,794
Maluku	212	3,392	4,240	0.69	6,145
Irian Jaya	157	2,512	3,140	0.56	5,607

Table 3: PEOPLE IN POVERTY AND INCIDENCE OF POVERTY,  
RURAL AREAS OF THE INDONESIAN PROVINCES, 1980

Province	Total population (000)	People in poverty (000)	Incidence of poverty (%)	Population in deprivation (000)	Incidence of deprivation (%)
West Java	21,315.6	7,312.7	34.3	/a	/a
Central Java	20,387.3	12,594.6	61.8	97.0	0.5
D.I. Yogyakarta	2,131.0	1,465.3	68.8	97.4	4.5
East Java	23,223.8	13,713.9	59.1	140.4	0.6
<u>Total Java</u>	<u>67,057.7</u>	<u>35,086.5</u>	<u>52.3</u>	<u>334.8</u>	<u>0.5</u>
D.I. Aceh	2,332.8	22.3	9.5	42.1	1.8
North Sumatra	6,127.7	1,309.0	21.4	190.0	3.1
West Sumatra	2,934.5	431.4	14.7	89.3	3.0
Riau	1,552.7	233.3	15.0	134.7	8.7
Jambi	1,229.6	101.5	8.3	33.6	2.7
South Sumatra	3,288.8	429.3	13.1	173.0	0.5
Bengkulu	683.5	149.5	21.9	65.5	9.6
Lampung	3,936.6	1,862.2	47.3	206.4	5.2
<u>Total Sumatra</u>	<u>22,086.2</u>	<u>4,738.5</u>	<u>21.5</u>	<u>934.6</u>	<u>4.2</u>
West Kalimantan	2,035.6	210.7	10.4	126.2	6.2
Central Kalimantan	838.9	110.5	13.2	/a	/a
South Kalimantan	1,602.1	215.6	13.5	17.6	1.1
East Kalimantan	712.4	105.1	14.8	90.2	12.7
<u>Total Kalimantan</u>	<u>5,189.0</u>	<u>641.9</u>	<u>12.4</u>	<u>234.0</u>	<u>4.5</u>
North Sulawesi	1,730.2	619.8	35.8	2.9	0.2
Central Sulawesi	1,143.5	346.7	30.3	46.2	4.0
South Sulawesi	4,894.0	2,269.0	46.4	210.7	4.3
South East Sulawesi	833.6	440.7	52.9	48.4	5.8
<u>Total Sulawesi</u>	<u>8,601.3</u>	<u>3,676.2</u>	<u>42.7</u>	<u>308.2</u>	<u>3.6</u>
Bali	2,082.7	840.7	40.4	480.8	23.1
West Nusa Tenggara	2,309.8	1,214.3	52.6	548.9	23.8
East Nusa Tenggara	2,492.7	1,480.0	59.4	1,179.8	47.3
Maluku	1,227.1	519.7	42.4	181.5	14.8
Irian Jaya	106.5	12.9	12.1	12.9	12.1
<u>Total E. Islands /b</u>	<u>8,618.8</u>	<u>4,107.6</u>	<u>47.7</u>	<u>2,403.9</u>	<u>27.9</u>
<u>Total Indonesia</u>	<u>111,553.0</u>	<u>48,250.7</u>	<u>43.3</u>	<u>4,215.5</u>	<u>3.8</u>

/a Insignificant

/b Includes estimates for some unspecified regions.

Table 4: PEOPLE IN POVERTY AND INCIDENCE OF POVERTY,  
URBAN AREAS OF THE INDONESIAN PROVINCES, 1980

Province	Total population (000)	People in poverty (000)	Incidence of poverty (%)	Population in deprivation (000)	Incidence of deprivation (%)
DKI Jakarta	6,320.8	1,066.5	16.9	40.1	0.6
West Java	5,678.1	1,498.0	26.4	81.0	1.4
Central Java	4,704.8	1,935.2	41.1	81.4	1.7
D.I. Yogyakarta	598.3	168.8	28.2	/a	/a
East Java	5,656.1	2,133.9	37.7	70.5	1.2
<u>Total Java</u>	<u>22,958.1</u>	<u>6,802.4</u>	<u>29.6</u>	<u>273.0</u>	<u>1.2</u>
D.I. Aceh	228.2	2.6	1.1	/a	/a
North Sumatra	2,076.3	367.2	17.7	25.9	1.2
West Sumatra	424.8	38.7	9.1	21.6	5.1
Riau	578.4	50.7	8.8	8.8	1.5
Jambi	180.0	10.0	5.6	/a	/a
South Sumatra	1,243.7	187.8	15.1	/a	/a
Bengkulu	71.3	8.8	12.3	1.8	2.5
Lampung	558.0	181.4	32.5	22.3	4.0
<u>Total Sumatra</u>	<u>5,360.7</u>	<u>847.2</u>	<u>15.8</u>	<u>80.4</u>	<u>1.5</u>
West Kalimantan	411.4	18.8	4.6	3.3	0.8
Central Kalimantan	95.4	4.5	4.7	/a	/a
South Kalimantan	430.2	37.8	8.8	/a	/a
East Kalimantan	468.9	53.2	11.3	14.0	3.0
<u>Total Kalimantan</u>	<u>1,405.9</u>	<u>114.3</u>	<u>8.1</u>	<u>17.3</u>	<u>1.2</u>
North Sulawesi	351.4	61.1	17.4	10.7	3.0
Central Sulawesi	112.9	15.5	13.7	5.9	5.2
South Sulawesi	1,082.1	256.4	23.7	43.1	4.0
South East Sulawesi	85.7	10.8	12.6	/a	/a
<u>Total Sulawesi</u>	<u>1,632.1</u>	<u>343.8</u>	<u>21.1</u>	<u>59.7</u>	<u>3.6</u>
Bali	357.6	94.2	26.3	21.3	6.0
West Nusa Tenggara	376.2	128.8	34.2	13.0	3.4
East Nusa Tenggara	203.8	47.0	23.1	18.7	9.2
Maluku	151.5	17.8	11.7	4.9	3.2
Irian Jaya	113.3	4.3	3.8	/a	/a
<u>Total E. Islands</u>	<u>1,202.4</u>	<u>292.1</u>	<u>24.3</u>	<u>57.9</u>	<u>4.8</u>
<u>Total Indonesia</u>	<u>32,559.2</u>	<u>8,399.8</u>	<u>25.8</u>	<u>488.3</u>	<u>1.5</u>

/a Insignificant.

Table 5: PEOPLE IN POVERTY AND INCIDENCE OF POVERTY,  
THE INDONESIAN PROVINCES, 1980

Province	Total population (000)	People in poverty (000)	Incidence of poverty (%)	Population in deprivation (000)	Incidence of deprivation (%)
DKI Jakarta	6,320.8	1,066.5	16.9	40.1	0.6
West Java	26,983.7	8,810.7	32.7	81.0	0.3
Central Java	25,092.1	14,529.8	57.9	178.4	0.7
D.I. Yogyakarta	2,729.3	1,634.1	59.9	97.4	3.6
East Java	28,879.9	15,847.8	54.9	210.9	0.7
<u>Total Java</u>	<u>90,005.8</u>	<u>41,888.9</u>	<u>46.5</u>	<u>607.8</u>	<u>0.7</u>
D.I. Aceh	2,561.0	224.9	8.8	42.1	1.6
North Sumatra	8,204.0	1,676.2	20.4	215.9	2.6
West Sumatra	3,359.3	470.1	14.0	110.9	3.3
Riau	2,131.1	284.0	13.3	143.5	6.7
Jambi	1,409.6	111.5	7.9	33.6	2.4
South Sumatra	4,532.5	617.1	13.6	173.0	3.8
Bengkulu	754.8	158.3	21.0	67.3	8.9
Lampung	4,494.6	2,043.6	45.5	228.7	5.1
<u>Total Sumatra</u>	<u>27,446.9</u>	<u>5,585.7</u>	<u>20.4</u>	<u>1,015.0</u>	<u>3.7</u>
West Kalimantan	2,447.0	229.5	9.4	129.5	5.3
Central Kalimantan	934.3	115.0	12.3	/a	/a
South Kalimantan	2,032.3	253.4	12.5	17.6	0.9
East Kalimantan	1,181.3	158.3	13.4	104.2	8.8
<u>Total Kalimantan</u>	<u>6,594.9</u>	<u>756.2</u>	<u>11.5</u>	<u>251.3</u>	<u>2.6</u>
North Sulawesi	2,081.6	680.9	32.7	13.6	0.6
Central Sulawesi	1,256.4	362.2	28.8	52.1	4.1
South Sulawesi	5,976.1	2,525.4	42.3	253.8	4.2
South East Sulawesi	919.3	451.5	49.1	48.4	5.3
<u>Total Sulawesi</u>	<u>10,233.4</u>	<u>4,020.0</u>	<u>39.3</u>	<u>367.9</u>	<u>3.6</u>
Bali	2,440.3	934.9	38.3	502.1	20.6
West Nusa Tenggara	2,686.0	1,343.1	50.0	561.9	20.9
East Nusa Tenggara	2,696.5	1,527.0	56.6	1,198.5	44.4
Maluku	1,378.6	537.5	39.0	186.4	13.5
Irian Jaya	219.8	17.2	7.8	12.9	5.9
<u>Total E. Islands /b</u>	<u>9,421.6</u>	<u>4,399.7</u>	<u>46.7</u>	<u>2,461.8</u>	<u>26.1</u>
<u>Total Indonesia</u>	<u>144,102.2</u>	<u>56,650.5</u>	<u>39.3</u>	<u>4,703.8</u>	<u>3.3</u>

/a Insignificant

/b Includes estimates for some unspecified regions.

REGIONAL EMPLOYMENT ESTIMATES

Labor force and employment data from the 1971 and 1980 Censuses were used here with some adjustments to achieve comparability of concepts and coverage.<sup>/1</sup> The labor force participation rates from the two censuses by age and sex were applied to the mid-year population estimates (total size to reflect the whole country and age-sex data smoothed to avoid age reporting biases) to get labor force magnitudes for the nation as a whole. The census employment rates were used to obtain the size of employment from the revised estimate of labor force, and the census employment composition applied to the size of total employment to obtain sectoral employment estimates. These national estimates by sector were then distributed among the regions in proportion to the original census data.<sup>/2</sup> Tables 1 and 2 of this Appendix contain the final employment estimates by region and by sector. Estimates have also been made for provinces, these have been included in the text (Chapter 4) and hence are not repeated here.

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<sup>/1</sup> For a detailed evaluation of the census data as well as data from various sample surveys of the intercensal period, see Annex 4 of Poverty in Indonesia, Trends, Associated Characteristics and Research Issues, (draft, August 1983).

<sup>/2</sup> A step by step account of the estimation procedure is given in the paper cited in footnote 1.

Table 1: ESTIMATES OF EMPLOYMENT FOR MAJOR REGIONS  
AND INDONESIA, 1971

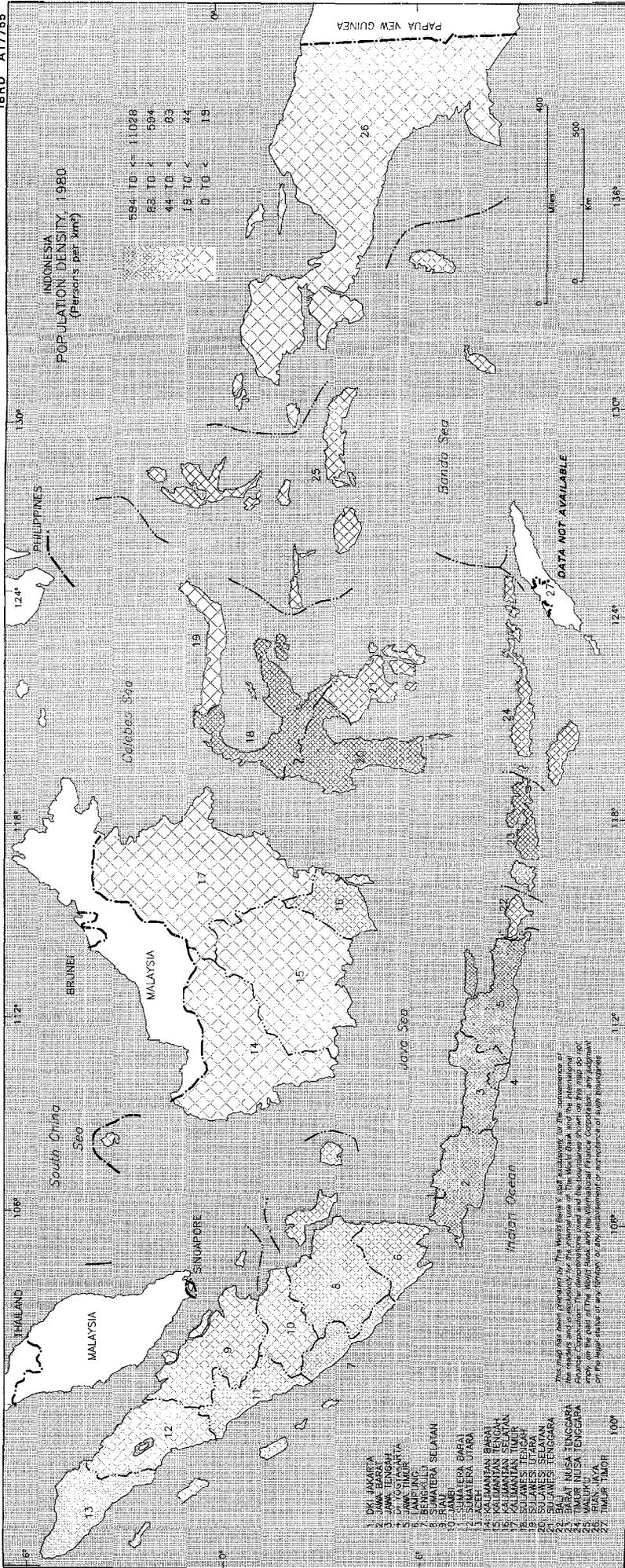
Region/sector	Employment (in thousands)		
	Urban	Rural	Total
<b>JAVA</b>			
Agriculture	302.0	16,423.0	16,725.0
Mining	9.0	16.3	25.3
Manufacturing	515.3	1,679.0	2,194.3
Electricity	20.3	7.7	28.0
Construction	203.7	312.7	516.4
Trade	1,101.2	2,449.0	3,550.2
Transportation	387.4	307.4	694.8
Finance	64.4	10.6	75.0
Service	1,444.8	1,612.2	3,057.0
<u>Total</u>	<u>4,048.1</u>	<u>22,817.9</u>	<u>26,866.0</u>
<b>SUMATRA</b>			
Agriculture	175.8	5,119.2	5,295.0
Mining	25.4	26.2	51.6
Manufacturing	70.1	162.5	232.6
Electricity	3.2	2.1	5.3
Construction	38.7	56.8	95.5
Trade	232.1	260.3	492.4
Transportation	80.0	80.6	160.6
Finance	9.7	2.3	12.0
Service	257.6	333.4	591.0
<u>Total</u>	<u>892.6</u>	<u>6,043.4</u>	<u>6,936.0</u>
<b>KALIMANTAN</b>			
Agriculture	70.1	1,433.9	1,504.0
Mining	5.4	1.7	7.1
Manufacturing	24.1	28.7	52.8
Electricity	1.2	0.2	1.4
Construction	9.5	5.2	14.7
Trade	62.0	43.9	105.9
Transportation	25.3	11.0	36.3
Finance	1.8	1.0	2.8
Service	77.4	52.6	130.0
<u>Total</u>	<u>276.8</u>	<u>1,578.2</u>	<u>1,855.0</u>
<b>SULAWESI</b>			
Agriculture	77.7	1,726.3	1,804.0
Mining	0.8	2.7	3.5
Manufacturing	32.2	136.0	168.2
Electricity	0.9	1.5	2.4
Construction	15.2	14.7	29.9
Trade	76.2	92.2	168.4
Transportation	31.7	33.8	65.5
Finance	3.0	1.1	4.1
Service	107.8	146.2	254.0
<u>Total</u>	<u>345.5</u>	<u>2,154.5</u>	<u>2,500.0</u>
<b>E. ISLANDS</b>			
Agriculture	54.2	2,336.8	2,391.0
Mining	0.4	0.2	0.6
Manufacturing	18.3	176.6	194.9
Electricity	1.0	0.4	1.4
Construction	14.3	36.8	51.1
Trade	45.1	157.4	202.5
Transportation	16.7	27.8	44.5
Finance	1.9	1.1	3.0
Service	97.6	167.4	265.0
<u>TOTAL</u>	<u>249.5</u>	<u>2,904.5</u>	<u>3,154.0</u>
<b>TOTAL: INDONESIA</b>			
Agriculture	679.8	27,039.2	27,719.0
Mining	41.0	47.1	88.1
Manufacturing	660.0	2,182.8	2,842.8
Electricity	26.6	11.9	38.5
Construction	281.4	426.2	707.6
Trade	1,516.6	3,002.8	4,519.4
Transportation	541.1	460.6	1,001.7
Finance	80.8	16.1	96.9
Service	1,985.2	2,311.8	4,297.0
<u>Total</u>	<u>5,812.5</u>	<u>35,498.5</u>	<u>41,311.0</u>

Source: Bank staff estimates based on the 1971 Census data.

Table 2: ESTIMATES OF EMPLOYMENT FOR THE MAJOR REGIONS AND INDONESIA, 1980

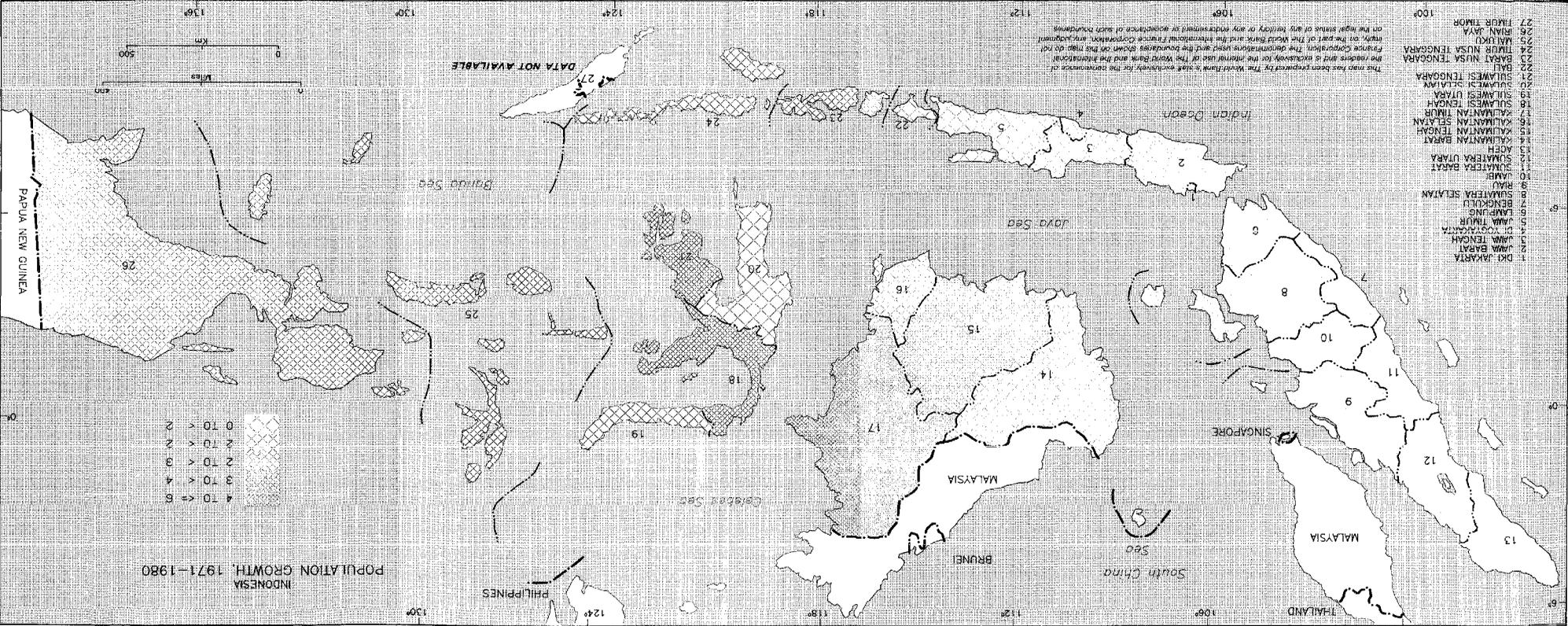
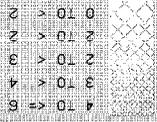
Region/sector	Employment (in thousands)		
	Urban	Rural	Total
<b>JAVA</b>			
Agriculture	605.0	15,700.0	16,305.0
Mining	40.2	148.1	188.3
Manufacturing	1,113.1	2,377.1	3,490.2
Electricity	29.1	16.1	45.2
Construction	372.3	775.0	1,147.3
Trade	1,747.0	3,189.0	4,936.0
Transportation	512.3	490.0	1,002.3
Finance	148.5	45.2	193.7
Service	2,397.8	2,496.2	4,894.0
<u>Total</u>	<u>6,965.3</u>	<u>25,236.7</u>	<u>32,202.0</u>
<b>SUMATRA</b>			
Agriculture	158.2	6,166.8	6,325.0
Mining	42.4	72.9	115.3
Manufacturing	123.8	306.8	430.6
Electricity	8.1	3.9	12.0
Construction	86.5	142.6	229.1
Trade	345.7	476.4	822.1
Transportation	117.4	119.7	237.1
Finance	27.2	25.6	52.8
Service	461.9	579.1	1,041.0
<u>Total</u>	<u>1,371.2</u>	<u>7,893.8</u>	<u>9,265.0</u>
<b>KALIMANTAN</b>			
Agriculture	31.8	1,612.2	1,644.0
Mining	6.9	20.7	27.6
Manufacturing	36.6	89.1	125.7
Electricity	1.3	0.7	2.0
Construction	24.2	23.5	47.7
Trade	94.3	110.4	204.7
Transportation	34.1	23.5	57.6
Finance	13.8	5.9	19.7
Service	137.4	127.6	265.0
<u>Total</u>	<u>380.4</u>	<u>2,013.6</u>	<u>2,394.0</u>
<b>SULAWESI</b>			
Agriculture	37.7	1,734.3	1,772.0
Mining	6.0	11.7	17.7
Manufacturing	34.3	183.3	217.6
Electricity	1.5	1.3	2.8
Construction	30.8	61.1	91.9
Trade	95.1	181.3	276.4
Transportation	35.3	48.5	83.8
Finance	9.1	3.7	12.8
Service	160.5	241.5	402.0
<u>Total</u>	<u>410.3</u>	<u>2,466.7</u>	<u>2,877.0</u>
<b>OTHERS</b>			
Agriculture	51.4	2,310.6	2,362.0
Mining	2.1	29.3	31.4
Manufacturing	28.3	297.7	326.0
Electricity	1.2	2.1	3.3
Construction	19.9	89.4	109.3
Trade	90.0	251.2	341.2
Transportation	22.2	43.4	65.6
Finance	10.9	8.3	19.2
Service	150.5	311.5	462.0
<u>Total</u>	<u>376.5</u>	<u>3,343.5</u>	<u>3,720.0</u>
<b>TOTAL: INDONESIA</b>			
Agriculture	884.1	27,523.9	28,408.0
Mining	97.6	282.7	380.3
Manufacturing	1,336.1	3,254.0	4,590.1
Electricity	41.2	24.1	65.3
Construction	533.7	1,091.6	1,625.3
Trade	2,372.1	4,208.3	6,580.4
Transportation	721.3	725.1	1,446.4
Finance	209.5	88.7	298.2
Service	3,308.1	3,755.9	7,064.0
<u>Total</u>	<u>9,503.7</u>	<u>40,954.3</u>	<u>50,458.0</u>

Source: Bank staff estimates based on the 1980 Census data.





INDONESIA  
POPULATION GROWTH, 1971-1980

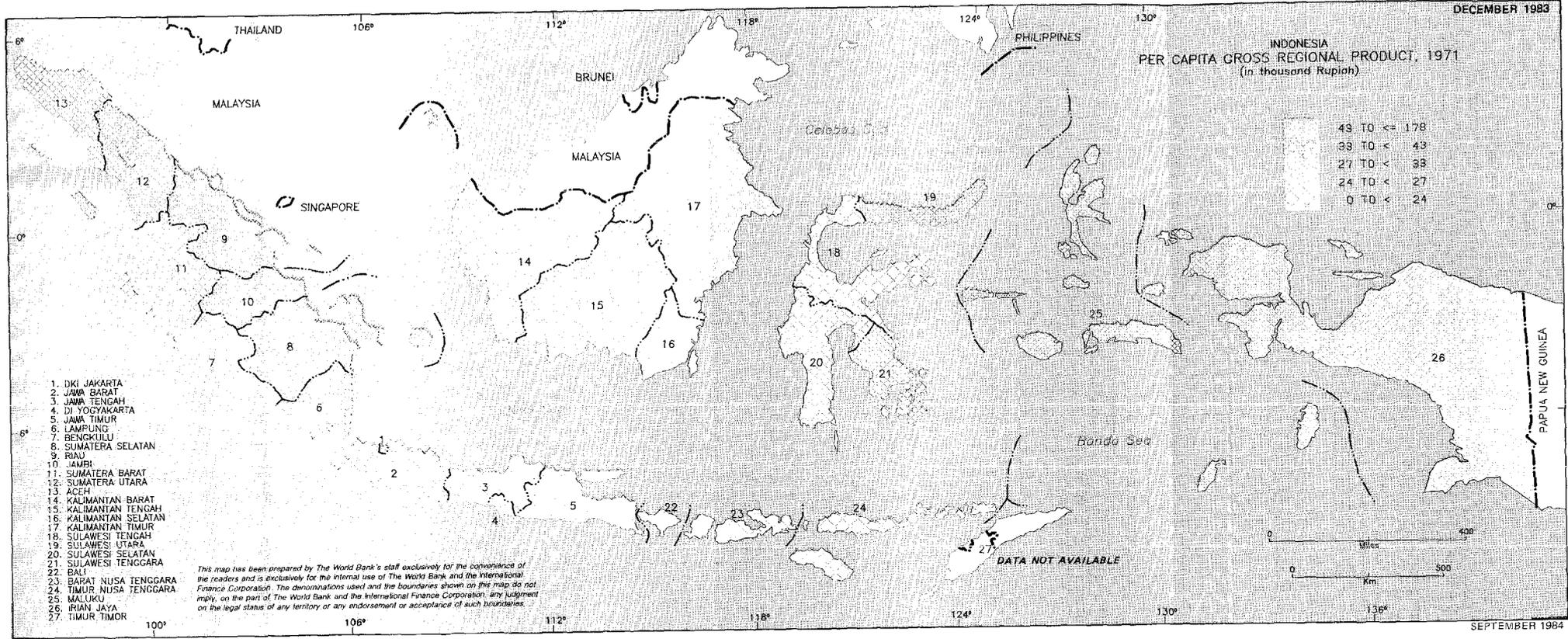


DATA NOT AVAILABLE

This map has been prepared by The World Bank's staff exclusively for the convenience of the Finance Corporation. The demarcations used and the boundaries shown on this map do not imply, on the part of The World Bank and the International Finance Corporation, any judgment on the legal status of any territory or any endorsement or acceptance of such boundaries.

- 1 DKI JAKARTA
- 2 JAWA BARAT
- 3 JAWA TENGAH
- 4 JAWA TIMUR
- 5 BENGKULU
- 6 LAMPUNG
- 7 RIAU
- 8 SUMATERA SELATAN
- 9 SUMATERA UTARA
- 10 ACEH
- 11 SUMATERA BARAT
- 12 KALIMANTAN UTARA
- 13 KALIMANTAN TENGAH
- 14 KALIMANTAN SELATAN
- 15 KALIMANTAN TIMUR
- 16 SULAWESI UTARA
- 17 SULAWESI TENGAH
- 18 SULAWESI SELATAN
- 19 MALUKU
- 20 MALUKU TENGAH
- 21 MALUKU UTARA
- 22 NUSA TENGGARA BARAT
- 23 NUSA TENGGARA TIMUR
- 24 MALUKU UTARA
- 25 MALUKU TENGAH
- 26 MALUKU SELATAN
- 27 TIMOR LESTE





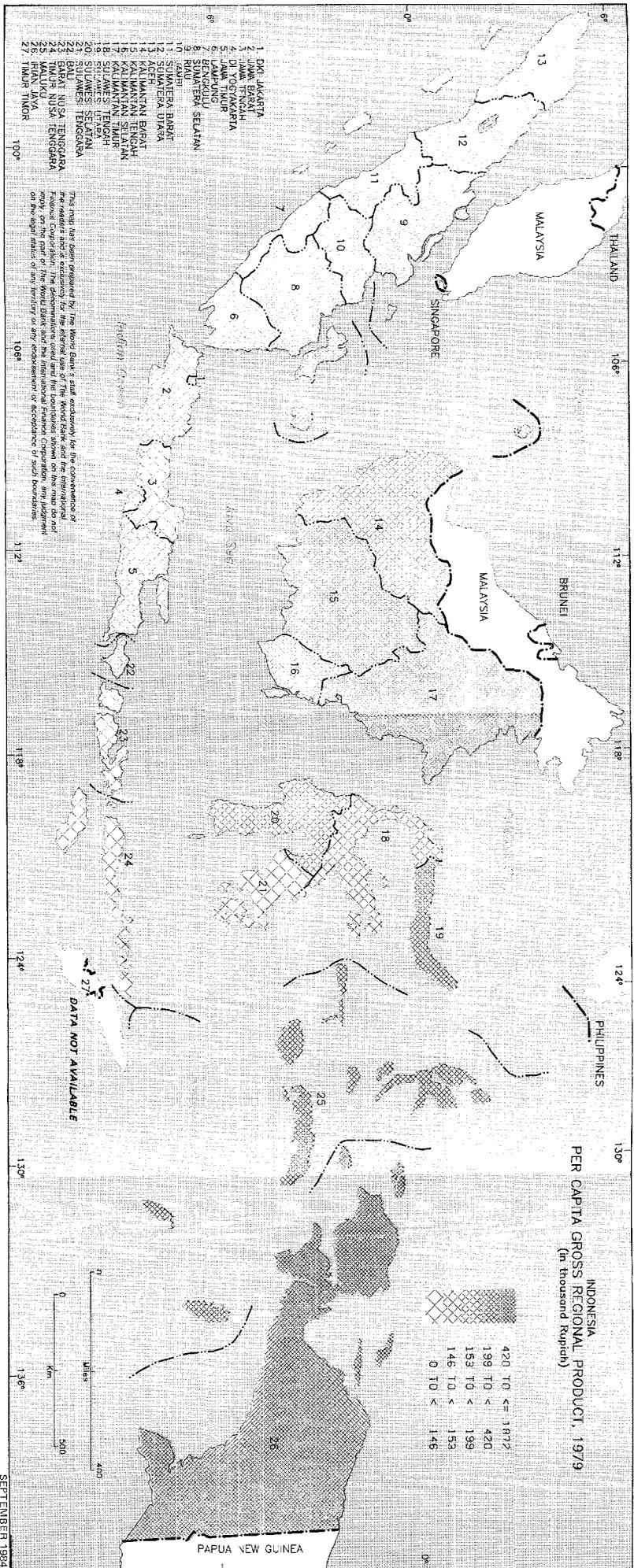
- 1. DKI JAKARTA
- 2. JAWA BARAT
- 3. JAWA TENGAH
- 4. DI YOGYAKARTA
- 5. JAWA TIMUR
- 6. LAMPUNG
- 7. BENKULU
- 8. SUMATERA SELATAN
- 9. RIAU
- 10. JAMBI
- 11. SUMATERA BARAT
- 12. SUMATERA UTARA
- 13. ACEH
- 14. KALIMANTAN BARAT
- 15. KALIMANTAN TENGAH
- 16. KALIMANTAN SELATAN
- 17. KALIMANTAN TIMUR
- 18. SULAWESI TENGAH
- 19. SULAWESI UTARA
- 20. SULAWESI SELATAN
- 21. SULAWESI TENGGARA
- 22. BALI
- 23. BARAT NUSA TENGGARA
- 24. TIMUR NUSA TENGGARA
- 25. MALUKU
- 26. IRIAN JAYA
- 27. TIMUR TIMOR

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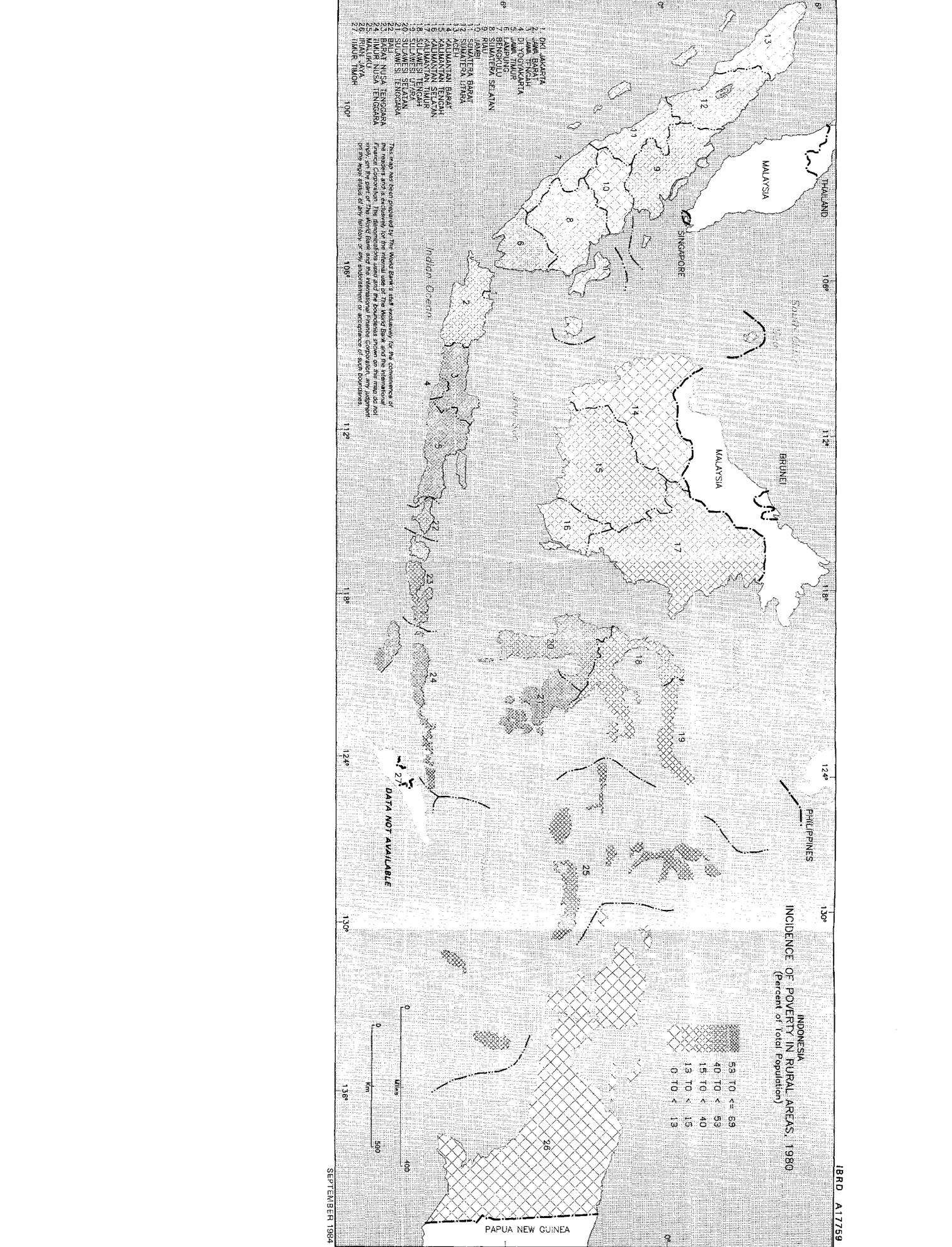
DATA NOT AVAILABLE











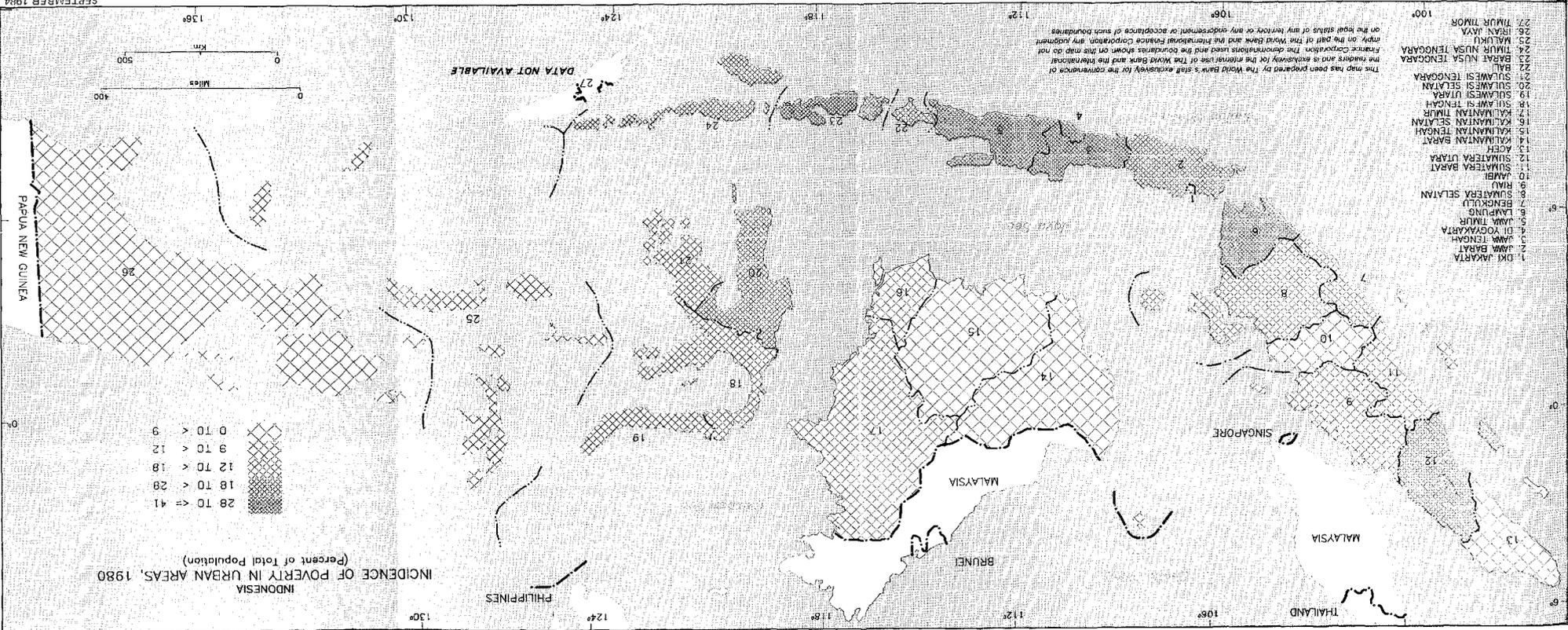
**INDONESIA**  
**INCIDENCE OF POVERTY IN RURAL AREAS, 1980**  
 (Percent of Total Population)

[Dense cross-hatch]	53.10 <= 69
[Medium cross-hatch]	40.10 < 53
[Diagonal lines /]	15.10 < 40
[Diagonal lines \]	1.3.10 < 15
[White]	0.10 < 1.3

1. DKI JAKARTA
2. JAWA BARAT
3. JAWA TENGAH
4. DI YOGYAKARTA
5. JAWA TIMUR
6. BENGKULU
7. SUMATERA SELATAN
8. RIAU
9. SUMATERA BARAT
10. SUMATERA LINTAS
11. KALIMANTAN BARAT
12. KALIMANTAN TENGAH
13. KALIMANTAN SELATAN
14. SULAWESI TENGAH
15. SULAWESI UTARA
16. SULAWESI SELATAN
17. BALI
18. NUSA TENGGARA
19. MALUKU
20. IRIAN JAYA
21. IRIAN JAYA BARAT
22. IRIAN JAYA SELATAN
23. IRIAN JAYA TENGAH
24. IRIAN JAYA BARAT DAYA
25. IRIAN JAYA SELATAN DAYA
26. IRIAN JAYA BARAT DAYA

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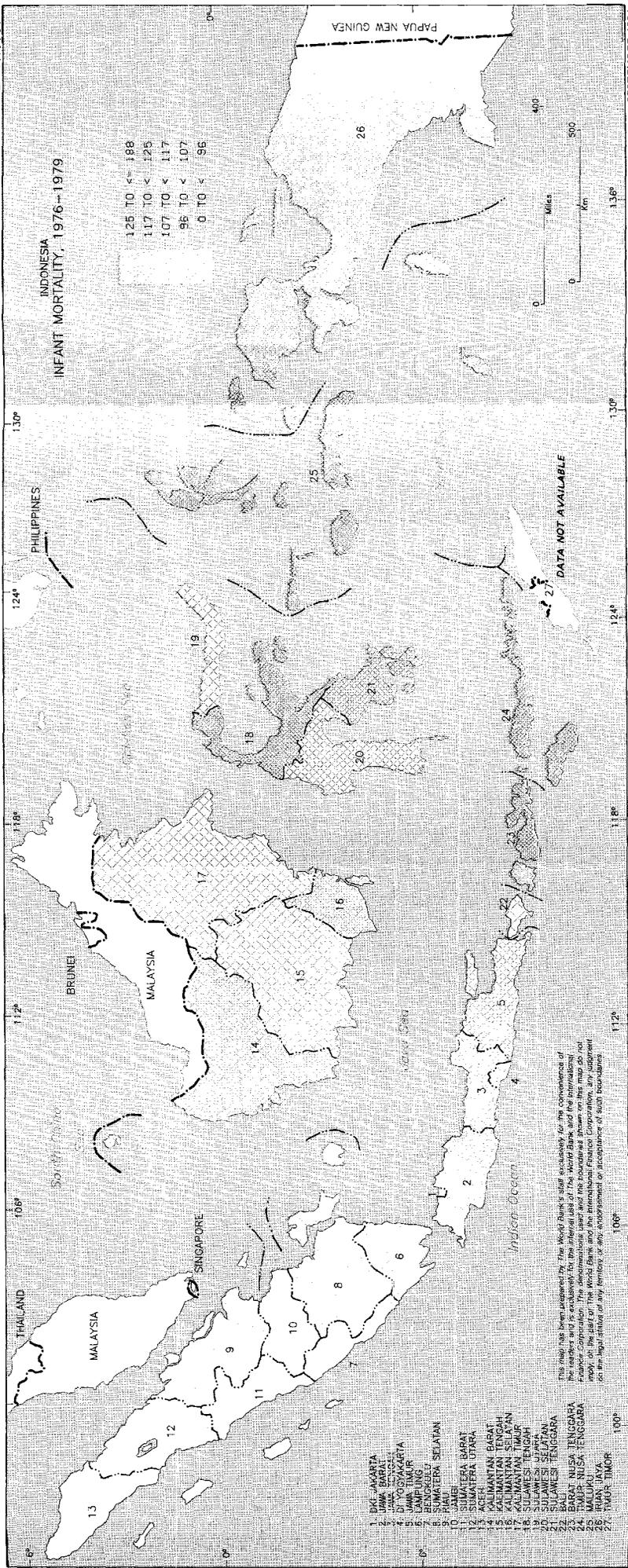






INDONESIA  
INFANT MORTALITY, 1976-1979

125 TO <= 188  
 117 TO < 125  
 107 TO < 117  
 96 TO < 107  
 0 TO < 96

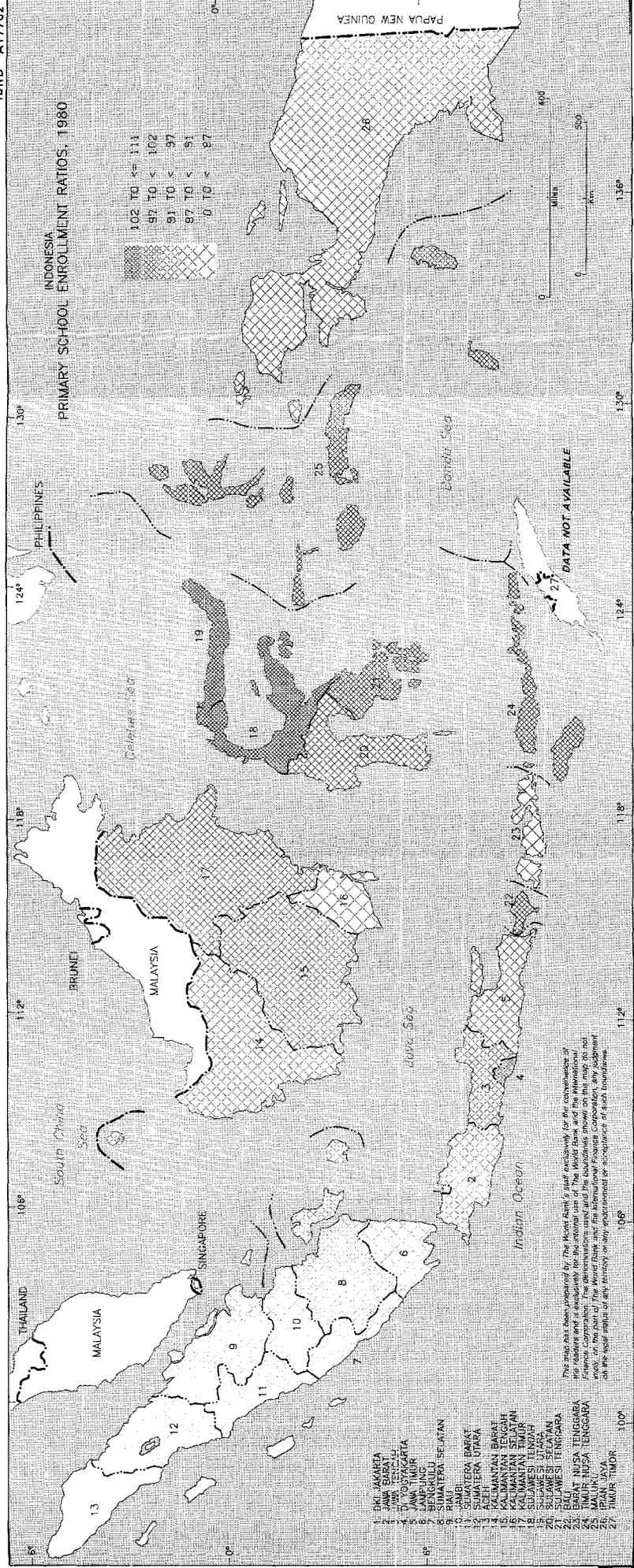


- 1. DKI JAKARTA
- 2. JAWA BARAT
- 3. JAWA TENGAH
- 4. JAWA TIMUR
- 5. LAMPUNG
- 6. SUMATERA UTARA
- 7. SUMATERA SELATAN
- 8. SUMATERA BARAT
- 9. RIAU
- 10. MALAKA
- 11. NUSANTARA
- 12. NUSANTARA BARAT
- 13. NUSANTARA UTARA
- 14. NUSANTARA BARAT
- 15. NUSANTARA SELATAN
- 16. NUSANTARA TIMUR
- 17. NUSANTARA TENGAH
- 18. NUSANTARA SELATAN
- 19. NUSANTARA BARAT
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- 21. NUSANTARA BARAT
- 22. NUSANTARA SELATAN
- 23. NUSANTARA BARAT
- 24. NUSANTARA SELATAN
- 25. NUSANTARA BARAT
- 26. NUSANTARA SELATAN
- 27. NUSANTARA BARAT

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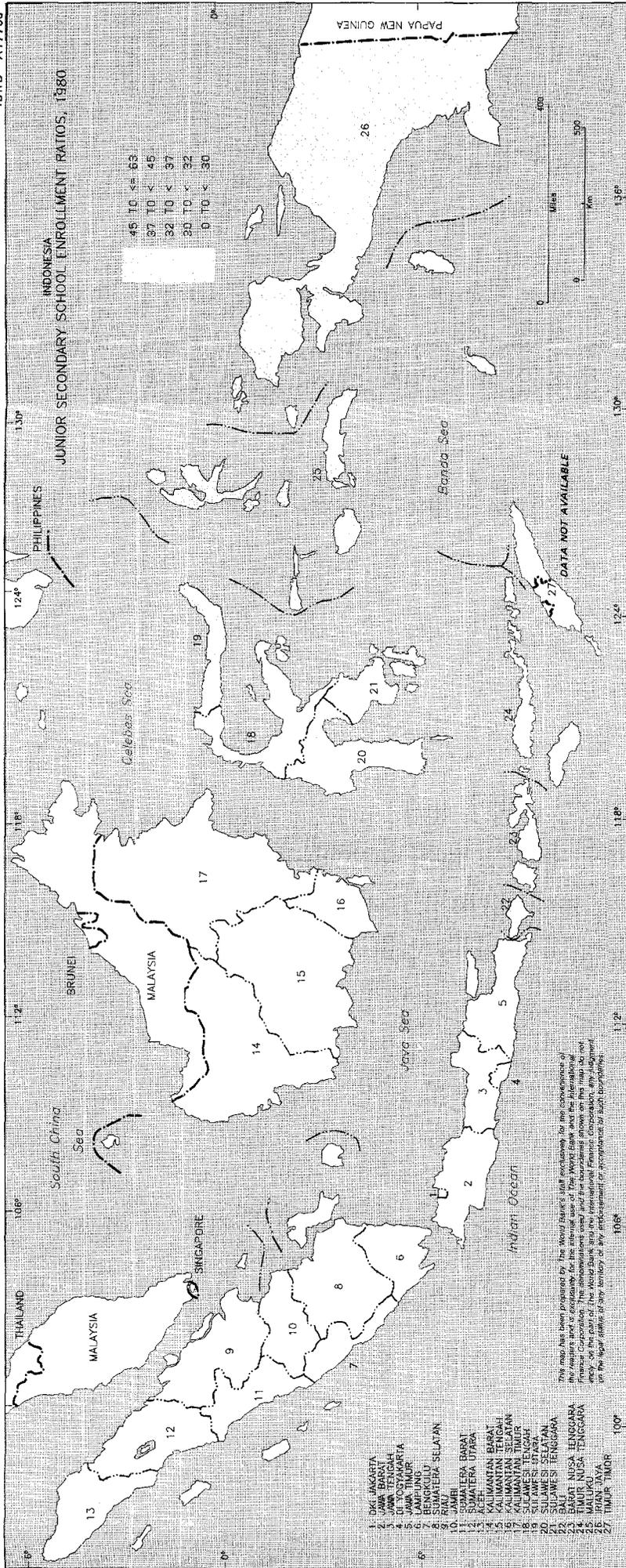
INDONESIA  
PRIMARY SCHOOL ENROLLMENT RATIOS, 1980



- 1 DKI JAKARTA
- 2 JAWA BARAT
- 3 JAWA TENGGARA
- 4 JAWA TIMUR
- 5 LAMPUNG
- 6 MALAKKA
- 7 SUMATERA SELATAN
- 8 RIAU
- 9 JABDI
- 10 SUMATERA UTARA
- 11 ACEH
- 12 KALIMANTAN BARAT
- 13 KALIMANTAN TENGAH
- 14 KALIMANTAN SELATAN
- 15 SULAWESI UTARA
- 16 SULAWESI SELATAN
- 17 SUKAWATI
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1. DKI JAKARTA
2. JAWA BARAT
3. JAWA TENGAH
4. DI. YOGYAKARTA
5. DI. SUMATRA UTARA
6. LAMPUNG
7. BENGKULU
8. SUMATERA SELATAN
10. JAMBI
11. SUMATERA BARAT
12. SUMATERA UTARA
13. ACEH
14. KALIMANTAN BARAT
15. KALIMANTAN TENGAH
16. KALIMANTAN TIMUR
17. SULAWESI TENGAH
18. SULAWESI TENGAH
19. SULAWESI UTARA
20. SULAWESI TENGGARA
21. SULAWESI SELATAN
22. BALI
23. NUSA TENGGARA BARAT
24. TIMOR LESTE
25. MALUKU
26. MALUKU TENGGARA
27. IRIAN JAYA
28. IRIAN JAYA
29. IRIAN JAYA
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99. IRIAN JAYA
100. IRIAN JAYA

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