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CENTRAL JAVA

FINAL REPORT

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OVERVIEW

1.1 General Characteristics of Central Java

1.1.1 Physical Setting

(a) Location

01.001 The Province of Central Java occupies the central part of the island of Java, and the center of the great Indonesian Archipelago. The approximate range of the area is 450 kilometers east to west, and 220 kilometers north to south, and occupies about a third of the entire island of Java, or 2 percent of the whole area of the country. The area faces Java Sea in the north and Indonesian Sea in the south. The relation of the area to the rest of Indonesia is shown in Figure 1.1.

01.002 Roughly speaking, Semarang (the capital city of the Province) is located halfway between Jakarta and Surabaya (the capital city of East Java Province); the road distance from Jakarta is about 5 hundred kilometers and that from Surabaya is about 3 hundred kilometers. Yogyakarta is about 1 hundred kilometers south of Semarang. The road distances between major Java cities are shown in Table 1.1.

(b) Topography and Geology

01.003 The Land area of the Province of Central Java is 34,503 square kilometers, which is about 25 percent of the whole area of the island of Java.

01.004 Geologically, the island of Java belongs to the inner arc, one of the two arcs that comprise the entire nation. This arc is characterized by volcanic activity, manifested in the presence of numerous extinct and active volcanoes, solfatara, and fumarole fields. It is no exaggeration that on the island one can not get out of sight of the volcanic cones, and slight earthquakes are frequently felt.

Figure 1.1 Indonesia and Location of Central Java Province

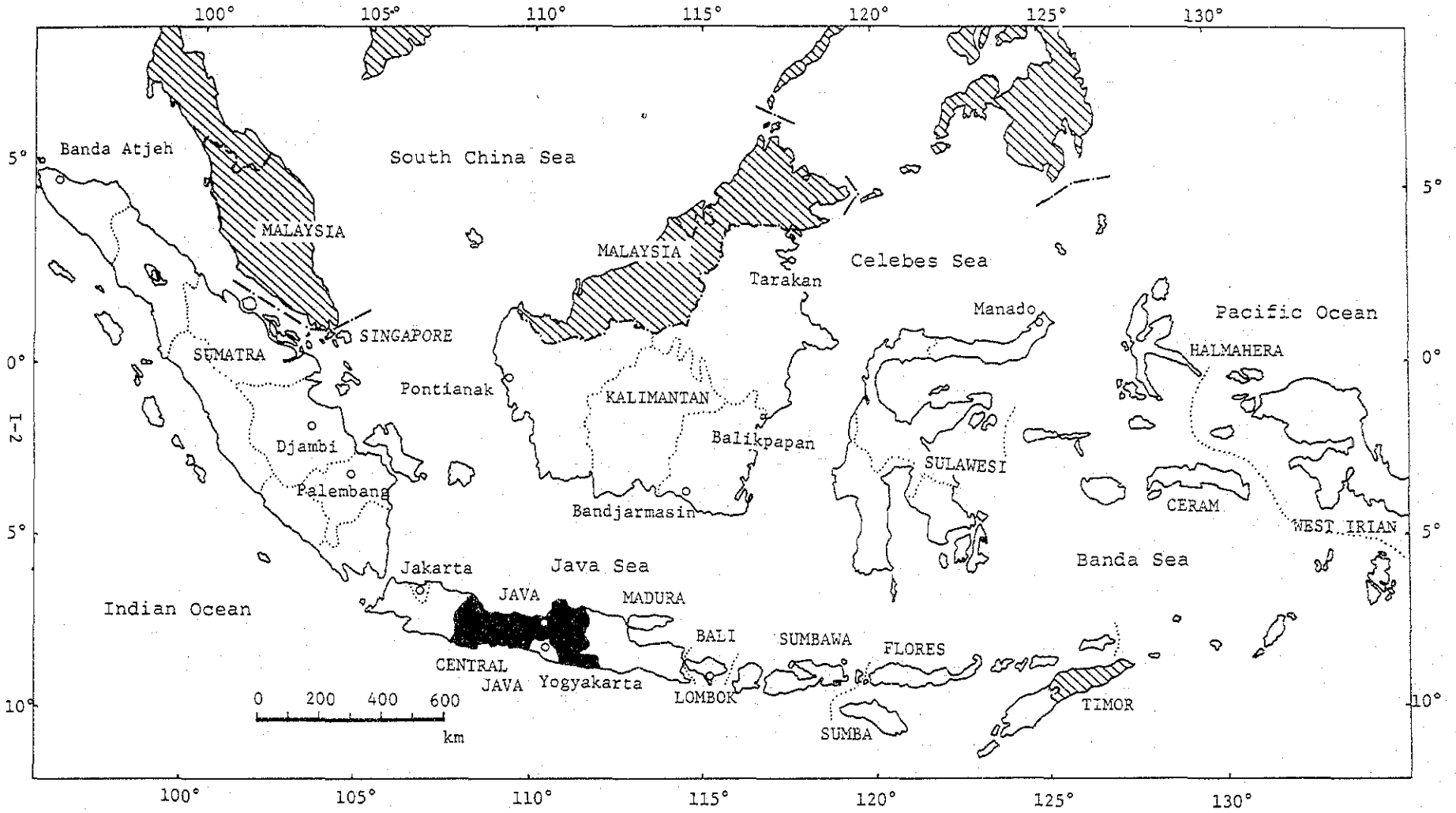


Table 1.1 Road Distances Between Major Cities in Java

(Unit: kilometer)

	Jakarta	Semarang	Yogyakarta	Rembang	Surakarta
Cilacap	446	270	216	376 9/	280
Jakarta	-	496 3/	576 7/	602 2/	591 2/
Kudus	547	51	167	55	116
Pekalongan	294 1/	96	176 7/	202 2/	191 2/
Purwokerto	114	427 5/	507 8/	533 5/	490 11/
Rembang	602 2/	106	222 2/	-	154 10/
Semarang	496 3/	-	116 6/	106	95
Surakarta	591 2/	95	64	154 10/	-
Yogyakarta	576 4/	116 6/	-	222 2/	64
Surabaya	810 12/	314 13/	327 14/	228 13/	264 14/

Notes: Through

1/ Situbondo
2/ Semarang
3/ Pamanukan
4/ Pamanukan-Weleri-Sukorejo
5/ Semerang
6/ Ambarawa
7/ Weleri-Sukorejo
8/ Weleri-Blora-Sumedang
9/ Banyumas
10/ Blora
11/ Semarang-Sumedang
12/ Tuban-Lamongan
13/ Tuban-Lamongan-Surabaya
14/ Mojokerto

Source: P.T. Permdina, Kilometer and Tourist Map, Java. Bali, Jakarta.

01.005 Central Java is not an exception to this general description and, therefore, an understanding of the geological nature of the area will be readily obtained by locating the volcanoes (both extinct and active) in the area. In the first place, there is a chain of volcanoes ranging 2,000 to 3,600 meters in elevation through the eastern and central part of the area; it forms a watershed between the north and the south coast. Apart from this, Mt. Muryo stands in the northeast corner of the area protruding onto the Java Sea. To the southwest of the Mt. Muryo is Mt. Lawu, forming the boundary with East Java Province. Details of geography in the area are presented in Figure 1.2.

01.006 The Solo River (Bungawan Solo), which is the largest river on the island, originates in the south of Mt. Lawu, and flows around the foot of the mountain, and then flows eastward beyond the boundary with the Province of East Java. In the central and western parts of the Province, there are many small and medium rivers, all flowing southward in the south, and northward in the north of the central height. Extensive plains of alluvium exist around the central highland and the two mountains in the eastern part. The fertile plain that can be found throughout the south coast portion of the area also extends to the north around Mt. Merbabu. Many inland cities have developed on this plain, namely Yogyakarta, Magelang, and Surakarta.

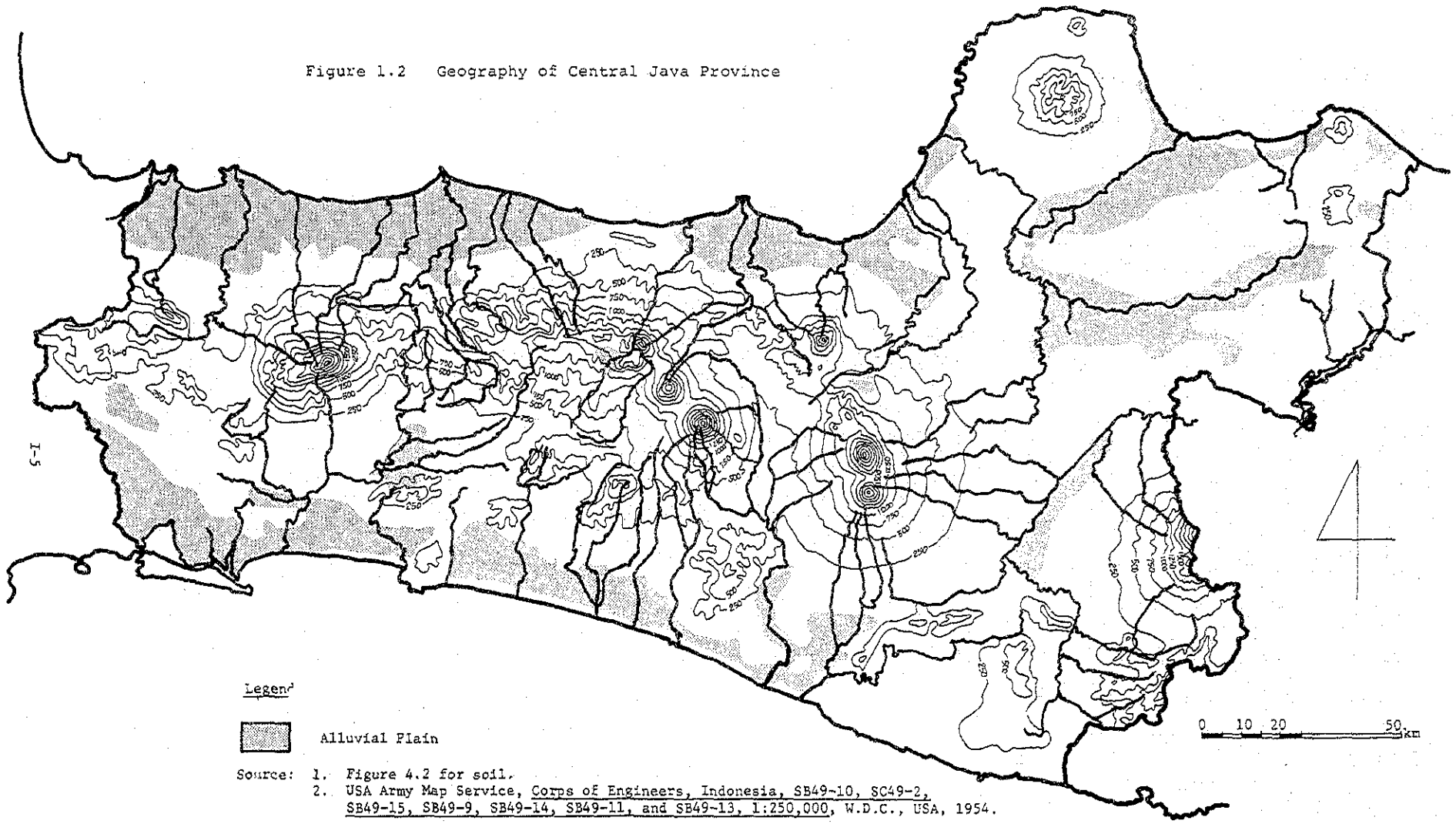
01.007 Access to the sea to the north coast rather than the south coast from historical rather than natural reasons, and in fact many cities have been developed as ports in the Dutch era. Tegal, Pekalongan, Semarang, and Rembang are among those cities. Between the north coast and Sumatra lies a part of the Sunda shelf, and the sea on this side is much shallower than that on the other side. On the southern coast, the only port developed so far is Cilacap and there is still no other access to the sea.

(c) Climatic Conditions

01.008 The climate of Central Java is typically tropical, being dominated by the monsoons. During the "wet" season from November to May, the west monsoon grings rain to the paddy fields in Central Java, while during the "dry" season from June to October, the area is affected by dry winds from the east. As is shown in Table 1.2, the standard normal rainfall in Semarang and Yogyakarta rarely exceeds one thousand milimeters in the dry season, whereas it ranges around two thousands milimeters and sometimes even reaches three thousands milimeters in the wet season. About 70 percent of annual rainfall is concentrated in the months from November to April, in the case of Semarang. However, rainfall within the area varies quite considerably and rainfall is heavy in areas around mountains.

01.009 In contrast to rainfall, which varies drastically through the year, temperature does not vary much within a year. Yearly variations are confined within 3°C in Semarang with the low in February and the high in October. Minimum and maximum monthly average temperatures in Semarang are presented in Table 1.3. Agricultural activities in

Figure 1.2 Geography of Central Java Province



Source: 1. Figure 4.2 for soil.
2. USA Army Map Service, Corps of Engineers, Indonesia, SB49-10, SC49-2, SB49-15, SB49-9, SB49-14, SB49-11, and SB49-13, 1:250,000, W.D.C., USA, 1954.

Table 1.2 Standard Normal Rainfall (Average of 1931-1969)

(Unit: Millimeters)

Name of Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total
Jakarta	334	241	201	141	113	97	61	52	78	91	155	196	1,760
Semarang	276	271	216	193	147	79	87	77	84	148	220	235	2,033
Yogyakarta	294	319	279	117	156	69	123	77	29	69	183	287	2,002

Source: IBRD, A Framework for Regional Planning in Indonesia Vol. II, Annex A.1, 1974

Table 1.3 Minimum & Maximum Temperature at Semarang, 1956-1958

(Unit: Degrees Centigrade)

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year
Minimum	23.7	22.7	24.7	24.9	24.5	23.1	22.2	22.8	23.9	24.4	25.3	24.5	23.9
Maximum	29.7	29.4	30.6	31.8	32.6	32.4	32.4	33.6	34.1	33.0	32.9	30.2	31.9
Average	26.2	25.4	27.2	27.6	27.9	27.3	26.6	27.4	28.3	28.4	28.5	26.6	27.3

Source: BPS, Statistical Pocketbook of Indonesia 1970 & 1971, 1972.

Central Java are, therefore, mainly affected not by temperature but by rainfall.

(d) Geology and Minerals

01.010 Central Java is not well endowed with economically valuable natural resources. There are a number of mineral deposits, but the quantity and quality of the ores are in most cases insufficient for economic use. Only iron sand along the southern coast is exploited on a commercial scale. Geographical distribution of mineral resources is presented in Figure 1.3.

(e) Soils and Land Capacity

01.011 Figure 1.4 shows the geological configuration of the Island of Java. It will be easily realized from the figure that the volcanic formations (tertiary and quarternary) appear around the central chain of mountains within Central Java, Mt. G. Muryo in the northeast, and Mt. Lawu in the eastern border. Tertiary sediments, which often form sterile and sparsely inhabited plateaus of limestone, spread around the central chain of mountains and the south of Mt. Lawu. Quarternary sediments, which always produce the rich land of young alluvial soils, spread along the north coast to the east of Semarang and the south of Mt. G. Muryo on the one hand, and along the south coast extending toward Surakarta, i.e., between the central mountains and Mt. Lawu.

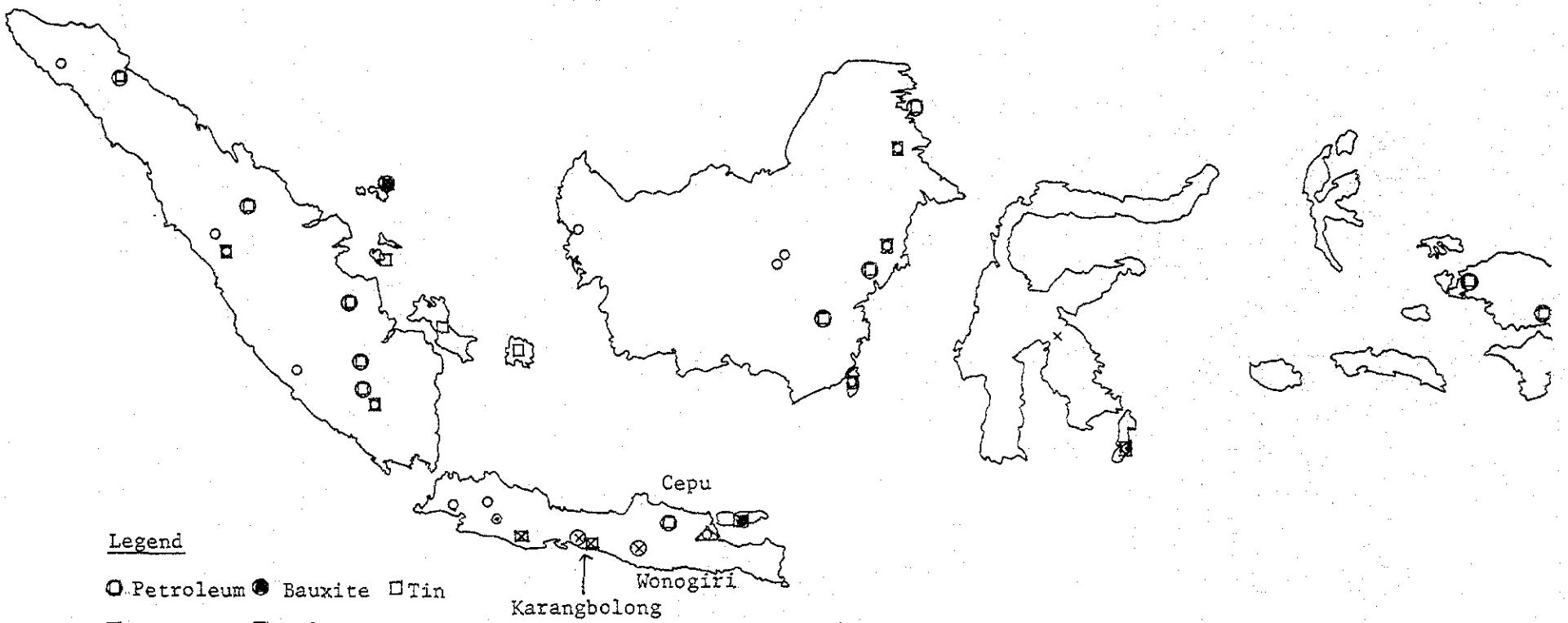
01.012 The area of quarternary sediments, with the mineral-rich waters coming from regions with recent or continuing volcanic activities, are considerably fertile land for agriculture, and much of the population, dominantly farmers, is concentrated in this area. Hence, the difference in geological components makes a striking contrast with the distribution of population density. As the examination of population density will later show, the area of quarternary sediments has a population density of more than 450 persons per square kilometers without exception.

(f) Marine Resources

01.013 Among the several ports on the north coast of the area, Semarang and Tegal are the busiest and are well maintained, but the shallow depth of the sea along this coast impedes ships of more than 700 tons from reaching the ports directly and many vessels have to anchor away from shore. Access from the Indonesian Ocean, on the other hand, is open mainly through Cilacap. This port is superb in terms of physical conditions, but local demand for shipping has not been high enough to warrant exploiting port's potentials to the fullest extent, and regional development around the port, although lagging, is hoped for by many.

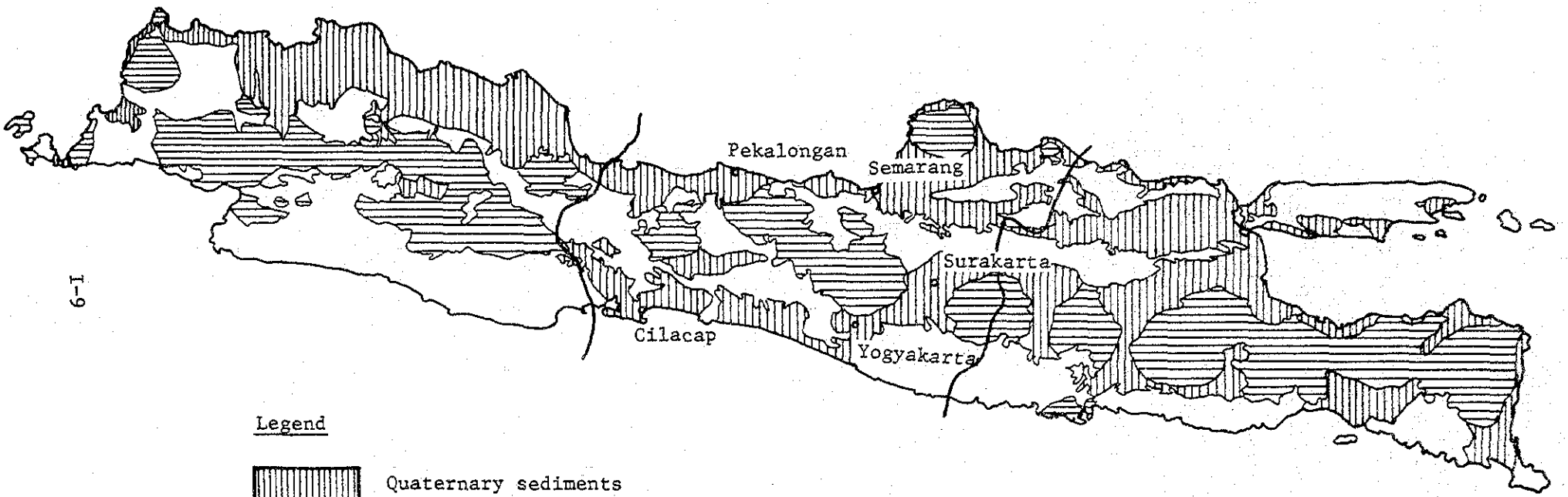
01.014 Although small-scale coastal fishery activities has been going on for a long time, quite abundant marine resources off-shore in Java Sea have not yet been massively exploited. The fishery

Figure 1.3 Location of Mineral Deposits of Indonesia



Source: R. McVey (Ed.), Indonesia, Survey of World Cultures, HRAF Press, USA, 1963, p. 141.

Figure 1.4 Geology of Java Island



Legend

Quaternary sediments

Tertiary and quarternary volcanic formations

Tertiary sediments, especially limestone

Source: R. McVey (Ed.), Indonesia, Survey of World Cultures, HRAF Press, USA, 1963.

Approximate scale: 1:3.8 million

production of the Province ranks at about the same as that of West Java, but falls far behind that of East Java.

1.1.2 Population and Employment

(a) Profile of Demographic Factors

01.015 The current population of the Province of Central Java is estimated at some 24 million, comprising about 29 percent of the population of the whole island of Java, or 18 percent of that of the entire nation. One striking feature of the demographic profile of the region is the extremely high population density. There is an average of 634 people per square kilometer in Central Java Province (in 1971). This figure is among the highest, in the world for a region without big cities. The profile of the demographic characteristics of the area is summarized in Table 1.4.

(b) Out-Migration

01.016 Table 1.5 shows a rough estimate of the magnitude of the inter-regional movement of the population based on the results of 1961 and 1971 censuses and estimates of the natural increase rate. According to the estimate, the outflow of population from Central Java Province was nearly 800 thousands in the decade starting in 1961, which is much higher than that of any other province in the area (269 thousands for West Java Province and 303 thousands for East Java Province). However, it must be noted that this amount of out-migration accounts for only 3.6 percent of the whole population of the area (in 1971).

01.017 The outflow of the population is mainly composed of trans-migration (movements to outer islands), and the movement to the cities. Available statistics indicate, as shown in Table 1.6, that the immigrants from Central Java Province comprised about 26 percent of the total number of immigrants into Jakarta as of 1971. The table also indicates the importance of Jakarta as the destination of migrants from Central Java.

(c) Manpower and Employment

01.018 The total labor force in the Province as of 1971 was reported to be slightly more than 8 million as is presented in Table 1.7, representing a labor force participation rate of 37 percent. The statistic given for the unemployed or "labor in search of employment" is not much relevant, as there should be an enormous amount of under-employment which has not been recorded.

Table 1.4 Population of Central Java, Java and Nation in 1930, 1961 and 1971

	Area (km^2)	Cebsus 1930 (in Thousands)	Census 1961 (in Thousands)	Census 1971 (in Thousands)	(%)	Annual Growth Rate 1961/71	Density (Persons/ 1971	Urban Pop. (Percentage)
Central Java	34,353	13,706	18,407	21,877	(18.0)	1.7	634	10.8
Total Java Madura	134,044	41,718	62,993	76,102	(63.8)	1.9	565	18.0
Total Indonesia	2,019,360	60,593	97,019	119,232	(100.0)	2.26	59	17.4

Source: IBRD, A Framework for Regional, Planning in Indonesia, 1974.

Table 1.5 Estimates of Net Movements of Population Between Regions, 1961-71

(Units: % or Thousand persons)

	Estimated Natural Rate of Increase	Actual Rate	Implied Net Movements 1961-71 (in thousands) (In)	(Out)
Central Java	2.1	1.7		785
Total Java, Madura	2.0	1.8		446
Total Indonesia	2.0	2.0	0.0	0.0

Source: Same as Table 1.4.

Table 1.6 The Distribution of the Origin of Migrants into Jakarta

Province	Population (in Thousands) 1961	Migrants into Jakarta	Share in Percent
Central Java	18,456	487,657	25.7
Total		1,896,703	100.0

Source: Same as Table 1.4.

Table 1.7 Labor Force and Population--10 Years Old and Over, 1971

(Unit: Thousands)

	Number of Workers [1]	Labor in Search of Employment [2]	Total Labor Force [3]	Total Population [4]	Employment Rate (Col.2 as Percent of Col.4 [5]	Labor Force as Percent of Population [6]
Central Java	8,177	145	8,312	15,053	98.4	55.2
Total Java Madura	25,757	604	26,352	52,314	97.7	50.4
Indonesia	39,210	890	40,100	80,426	97.7	49.9

Source: Same as Table 1.4.

1.1.3 Government Administration and Geographical Distribution of Population

(a) Units of Administration

01.019 In the Indonesian system of government administration, there are four hierarchical levels under the Central Government. The first level is the Provincial Government which comes under the direct administrative control of the Ministry of Home Affairs of the Central Government. The governments of the twenty-four provinces, the Capital Region of Jakarta (D.K.I. Jakarta), and the Special Region of Yogyakarta (D.I. Yogyakarta) fall in this category. Governors are appointed by the President from more than three candidates nominated by the provincial legislative body (DPRD). The Province of Central Java is among these 26 provinces.

01.020 Under the Provincial Government are the secondary-level governments called kabupaten and kotamadya, which are administered by Bupati and Wali-Kota, respectively. Although there is no word in English that corresponds each of these notions, the words of regency and municipality are often adopted for kabupaten and kotamadya, respectively. There are 29 kabupatens and 6 kotamadyas in Central Java, which are illustrated on Figure 1.5.

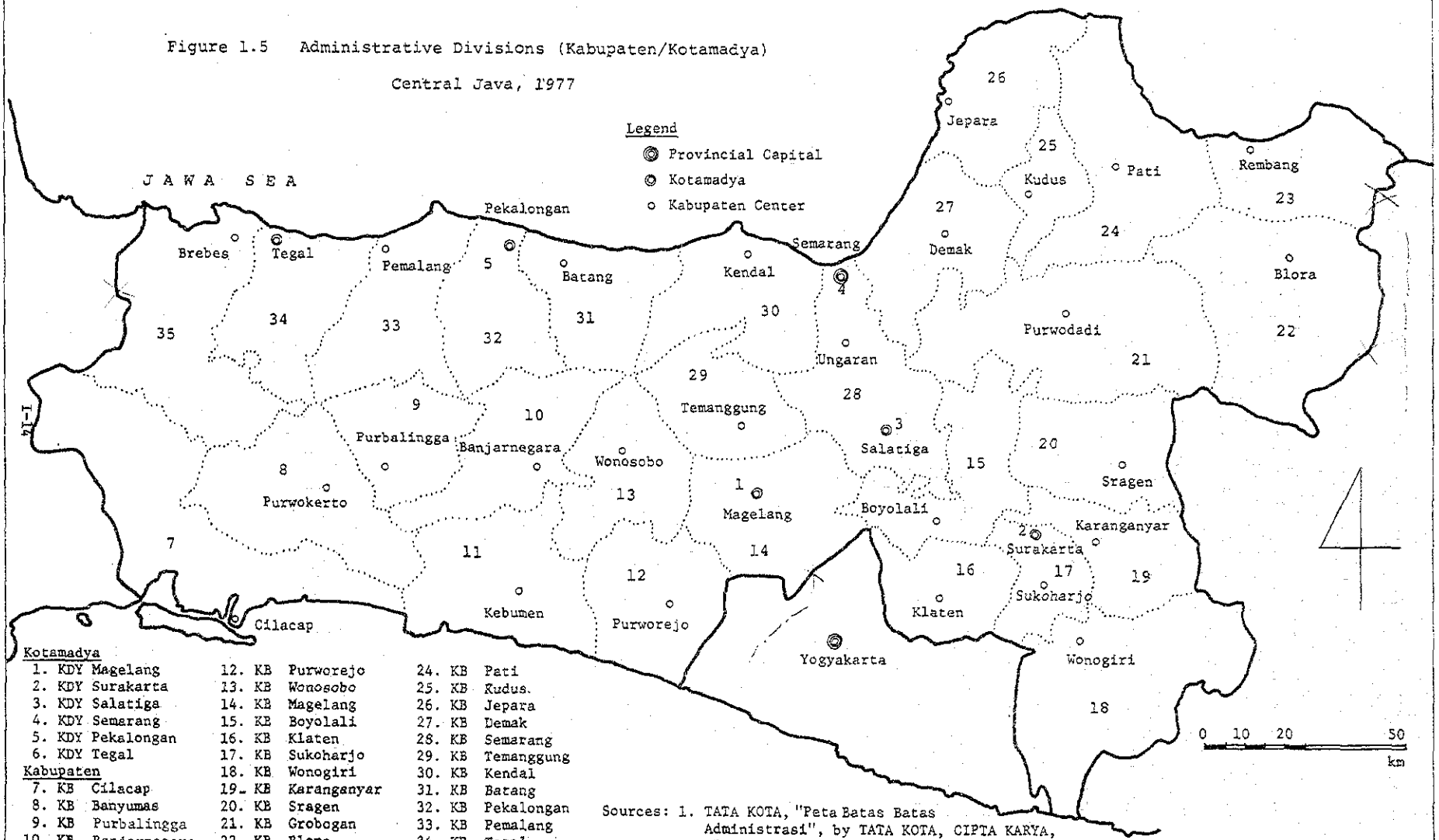
01.021 The third level of the administration is kecamatan, which number 492 in Central Java Province, and the fourth level is desa, which is translated into village. The numbers of the adiministrative units at each level are summarized below:

	Central Java
Kotamadya	6
Kabupaten	29
Kecamatan	492
Desa	8,466

01.022 On the average, there are 14 kecamatans in each kabupaten/kotamadya and there are 17 desas in each kecamatan in Central Java. The average size of each administrative unit is summarized below.

Figure 1.5 Administrative Divisions (Kabupaten/Kotamadya)

Central Java, 1977



Kotamadya

1. KDY Magelang
2. KDY Surakarta
3. KDY Salatiga
4. KDY Semarang
5. KDY Pekalongan
6. KDY Tegal

Kabupaten

7. KB Cilacap
8. KB Banyumas
9. KB Purbalingga
10. KB Banjarnegara
11. KB Kebumen
12. KB Purworejo
13. KB Wonosobo
14. KB Magelang
15. KB Boyolali
16. KB Klaten
17. KB Sukoharjo
18. KB Wonogiri
19. KB Karanganyar
20. KB Sragen
21. KB Grobogan
22. KB Blora
23. KB Rembang
24. KB Pati
25. KB Kudus
26. KB Jepara
27. KB Demak
28. KB Semarang
29. KB Temanggung
30. KB Kendal
31. KB Batang
32. KB Pekalongan
33. KB Pemalang
34. KB Tegal
35. KB Brebes

Sources: 1. TATA KOTA, "Peta Batas Batas Administrasi", by TATA KOTA, CIPTA KARYA, DPUTL, Jakarta.
2. BAPPEDA, Jawa Tengah Selayang Pandang 1975, 1976.

	Kotamadya/ Kabupaten	Kecamatan	Desa
Average Area in sq. km	981	70	4
Average Population in 1971 in Thousand Persons	625	44	2.6

(b) Geographical Distribution of Population

01.023 The population distribution within the Province is shown in Figure 1.6 in terms of population density. It shows that the density is generally high in lowland areas along the northern and southern coasts and around Merbabu and Merapi Mountains.

(c) Cities and Their Population

01.024 The largest city in the Study area is Semarang which has a population of more than 6 hundred thousands in 1971, followed by Surakarta which had a population of about 4 hundred thousands, Pekalongan and Tegal both developed as port cities on the northern coast and Magelang, which is located at the center of the Central Java, each had a population of about one hundred thousands.

1.1.4 Central Java's Relationship to Indonesia

01.025 The relative position of the Province of Central Java in relation to the rest of Indonesia can be described in a number of ways. In what follows, it is discussed in terms of socio-economic development and socio-cultural background.

(a) Relative State of Socio-Economic Development

01.026 To facilitate comparison of Central Java relative to other parts of the nation, several economic and social indicators are presented in Tables 1.8 and 1.9. In these tables, Central Java is combined with D.I. Yogyakarta and West Java with D.K.I. Jakarta. These three areal groups divide the island of Java more or less equally in terms of population and area, facilitating ready comparison among them. Since the choice of indicators is rather arbitrary, the tables are meant to be illustrative, rather than definitive, of the relative situation.

Figure 1.6 Population Density of Java Island in 1961

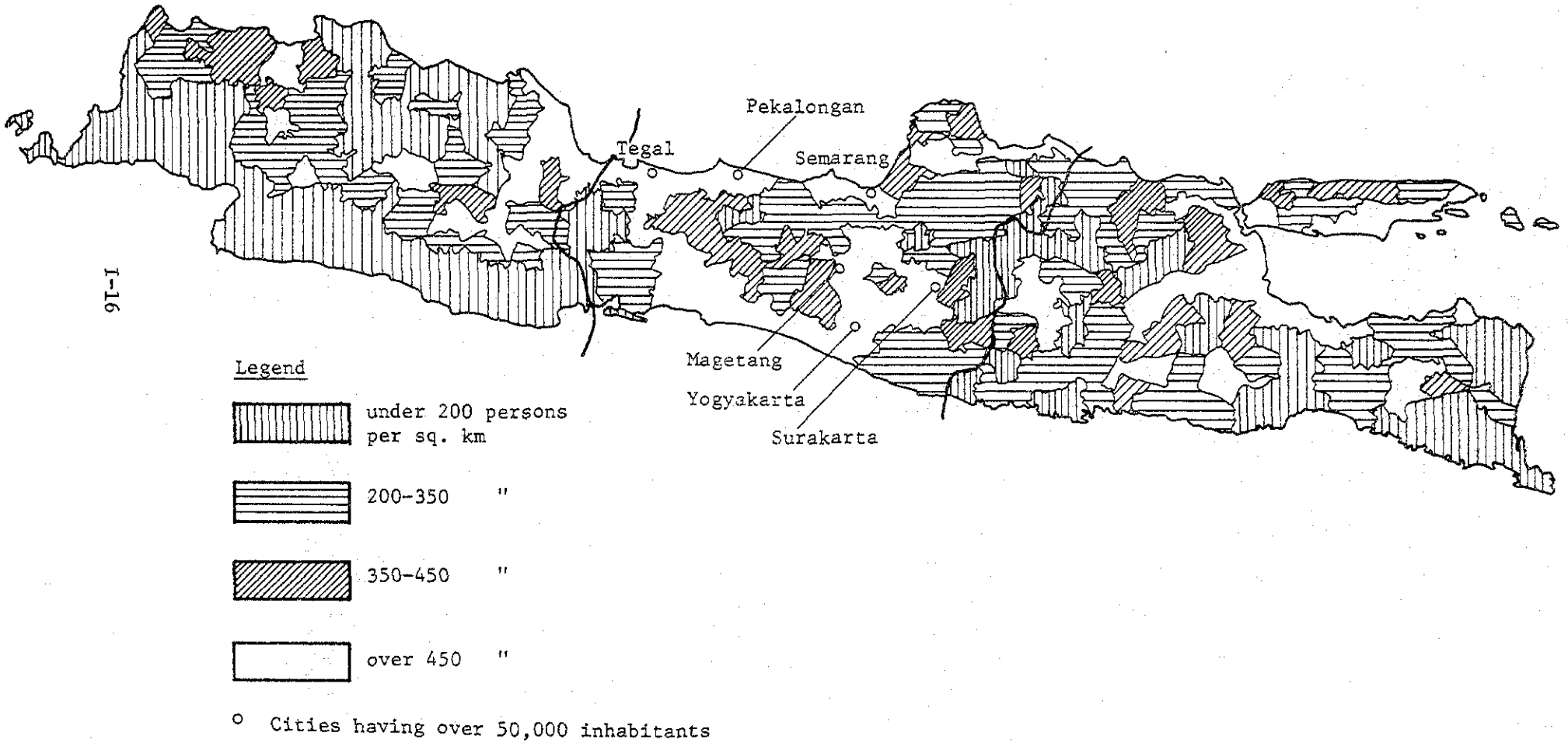


Table 1.8 Central Java in Relation to Indonesia: Selected Economic Indicators

Sector/Indicator	Unit	Central Java + DI Yogyakarta	West Java + DKI Jakarta	East Java	17-Province Total	Indonesia[2]
Population[1] (1971)	1,000 Persons	24,367	26,209	25,527	100,596	119,232
Share in National Total	%	20.4	22.0	21.4	84.4	100.0
Gross Regional (Domestic) Product[3] (1970)	Rp. Bil.	426.2	603.6	532.6	2,111	2,923
Share in 17 Province Total	%	20.2	28.6	25.2	100.0	-
Per Capita GRP (1970)	Rp	17,491	23,030	21,456	20,985	24,675
Relative Index	17 Province = 100	83	110	102	100	-
Share of Agriculture in GRP (1970)	%	46.4	34.8	50.2	42.5	47.6
Share of Manufacturing in GRP (1970)	%	12.2	9.2	9.9	9.0	9.5
Labor Productivity in Agriculture[4] (1970)	Rp	37,029	57,420	42,872	43,612	55,801
Relative Index	17 Province = 100	85	132	98	100	-
Labor Productivity in Manufacturing[4]	Rp	42,098	103,459	100,296	69,417	94,380
Relative Index	17 Province = 100	61	149	144	100	-

Notes: 1/ Included are those provinces for which GRD data are available from the BPS publication listed under sources--namely, all Java provinces, all Sulawesi provinces except Southeast Sulawesi, D.I. Aceh, West Sumatra, Riau, West Kalimantan, South Kalimantan, West Nusa Tenggara, East Nusa Tenggara, Maluku and West Irian.

2/ The gross product and related figures in this column are not comparable to those in the columns to the left because of differences in the estimation procedures employed in GRP calculation.

3/ GRP and related figures used below are averages for the 1969-71 period and in constant 1969 prices, as are the GDP figure for Indonesia as a whole.

4/ Labor productivity = gross value added per economically active population in the sector as defined in the Census. Since the census-based sectoral labor force data are available only by islands and not by provinces for the outer islands, in calculating the 17-province average, the size of agricultural and manufacturing labor force has been estimated for each island group on the basis of the respective island totals and the population distribution.

Sources: For population and labor force data, BPS, 1971 Population Census, Preliminary Figures, Jakarta, 1974.

For GRP data, BPS, Regional Income from 17 Provinces, Jakarta, 1973.

For GDP data, BPS, Statistical Pocketbook, Indonesia, 1972/73, Jakarta, 1974.

01.027 The picture which emerges from the selected economic indicators may be summarized as follows:

(1) Central Java occupies nearly a fifth of the total population of the country, but its income level is about 70 percent of the national average.

(2) The share of agriculture in GRDP is close to the national average, but the labor productivity in agriculture is about two-thirds of the national average and also substantially below those of East Java and West Java.

(3) Although the share of manufacturing in GRDP is greater than the national average and that of East or West Java, the labor productivity in the manufacturing sector is less than a half of the national average and about 40 percent of that in East Java or West Java.

(4) Central Java can be characterized most succinctly by low labor productivity in most of major sectors, compared to all other provinces in Java.

01.028 The foregoing points indicate that Central Java typifies the problem of underemployment in the labor-abundant island of Java. It is to be noted that even the manufacturing sector labor productivity is below the agricultural labor productivity in most provinces.

01.029 Turning to the social indicators shown in Table 1.9, it can be observed that Central Java generally lags behind the other parts of Java. It should be conceded that due to inclusion of D.K.I. Jakarta, West Java has generally higher level of social services than otherwise, but Central Java has poorer indicators than East Java notably in transportation, communication and power supply. Only in education and hospital beds does Central Java appear better than East or West Java. These facts indicate that Central Java is more socially oriented and less economically-oriented than East or West Java.

(b) Socio-Cultural Background of Central Java

01.030 It has been pointed out in the literature that the Javanese society is "post-traditional" in terms of social and family structure: The traditional social structure of Java, which is supposed to be similar to the social structure observed now in Bali, was transformed by the Dutch rule and the following expansion of the population in the last century to form an "indefinite" social structure with "flaccid" traditional norms and "loose" social relations among the members of the community (C.Geertz).

01.031 Specifically, among families in Java the nuclear family with a bilateral kinship system predominates; this is unique in traditional societies. But the composition of a family is considerably flexible; the concept of family as an independent and lasting entity is weak, the

Table 1.9 Central Java in Relation to Indonesia: Selected Social Indicators[1/]

Sector/Indicator		Unit	Central Java	Relative Index (Nation = 100) Central Java + DI Yogyakarta	West Java + DKI Jakarta	East Java
Transportation						
National and Provincial Roads[2/]	(1971)	km/km^2	64.6	342	326	370
Bus[3/]	(1973)	No./1,000 persons	0.109	36	154	39
Truck[3/]	(1973)	No./1,000 persons	0.605	53	153	76
Communication						
Telephone Receivers[3/]	(1973)	No./1,000 persons	1.176	57	183	83
Registered TV Receivers[4/]	(1972)	No./1,000 persons	0.897	58	344	34
Electricity						
Electricity Distributed[5/]	(1972)	KWH/person	9.669[8/]	56	230	89
Education						
Primary Schools[3/]	(1972)	No./1,000 persons	0.558	105	78	72
Primary School Teachers[3/]	(1972)	No./100 pupils	3.49	111	90	91
Health						
Public Health Centers and Dispensaries[7/]	(1972)	No./1,000 persons	0.019	75	111	104
Hospital Beds[5/]	(1972)	No./1,000 persons	0.440	93	88	69
Banking						
Commercial Bank Offices[6/]	(end of 1968)	No./100,000 persons	0.529	73	131	52

Notes & Sources: 1/ Indicators are expressed in terms of per unit of area or of population. Area and population data are taken, unless otherwise stated, from Statistical Pocketbook Indonesia 1972/1973, BPS, Jakarta, 1974. For Central Java, the population data are taken from Population Registration 1972, Buro Daerah Statistik, Semarang, 1976.

2/ Ibid.

3/ Social Indicators 1973, BPS, Jakarta, 1974.

4/ TV receiver figures from Social Indicators 1973, BPS, Jakarta, 1974. Population figures used for calculation are derived from the same source.

5/ Electricity sold by the General Electric Enterprise (Persahaan Umum Listrik Negara Pusat). The data are from Statistical Pocketbook Indonesia 1972/1973, BPS, Jakarta, 1974. Population figures are the same as used in 4/.

6/ Includes both state and private. The data are from Report for the Financial Year 1968, BNI (Unit I). For population figure 1971 census data are used.

7/ Data are taken from Statistical Pocketbook Indonesia 1974/1975, BPS, Jakarta, 1976.

8/ Includes D.I. Yogyakarta.

land is given to every child evenly at least among males; and any relative can be taken into a family if it is necessary. The weakness of the family proven by the high divorce rate in the region.

01.032 Action for mutual solidarity is emphasized and in fact practiced through "Gotong Royong", which is often quoted as a proof of the potential for cooperative movement towards development in a rural area. But the group formed for Gotong Royong, "Dalap", is in fact a loose social group in terms of membership, the coverage changeing widely from time to time. Also, a community seldom owns physical property except for the fields for village officials. Were these the case for the rural villages, the lack of a definite frame for social solidarity and identity of people is undeniable.

01.033 The low literacy rate is an unsurmountable obstacle for diffusing new cultural influences. Especially it is important that the lack of literacy is making it difficult for the peasants to organize groups or movements on their own.

01.034 Needless to say Moslem is a dominating religion in Central Java as is true in Indonesia as a whole. No examination, however, is needed about the religious structure in terms of the economic development of Central Java.

01.035 Although the outline of the social structure gives the basic picture, the society appears to be indicating the beginning of change in many important aspects. First, the population expansion in the face of limited land makes it inevitable that a huge group of landless workers is created as is depicted in Chapter II. Second, the introduction of money economy, being brought about by the innovations in agriculture (use of fertilizer) and many other social factors, is proceeding with considerable momentum. Third, social and economic interactions are undoubtedly growing for the average farmer along with the development of market agriculture and/or the temporary migration. These changes will result in emergence of a large population which inevitably has to secure its livelihood from non-agricultural work. As important as these changes are, there is also a possibility that the social structure exposes its vulnerability in undergoing such development.

1.2 Assessment of Progress to Date

1.2.1 General Background

01.036 Looking back to in the fourth year of Repelita II, it is possible to summarize achievements in development at the national level since the beginning of Repelita I as follows. First, the Indonesian economy resumed to rapid growth after two decades of economic min-management. Second, the rehabilitation of prewar infrastructure almost has been completed and considerable amounts of new infrastructure

investment have been made. Third, there has been steady progress in agriculture, especially in paddy production due to BIMAS/INMAS and other programs. Fourth, a multi-fold hike in the oil price in 1973 helped the economy substantially. Fifth, the Government started to pay increasing attention to rural development and allocated substantial amounts of resources for use in public works in rural areas in the form of INPRES. Sixth, inflation remains a problem although its intensity has been greatly reduced from the levels prevalent during 1960's. Seventh, the Government has been attracting foreign investment which evidently is contributing to the growth of the economy but at the same time has become a symbol of dualism. Eighth, on the whole the economy has been growing at a rate considerably greater than 7 percent per annum in real terms, but growth has been more pronounced in Sumatra, Kalimantan and Jakarta and most other parts of Java have been left behind owing to the relative scarcity of resources to the mass of population. The growth of GDP and related indices are shown in Table 1.10.

01.037 In terms of development expenditure by the Central Government, the productive infrastructure sectors of "agriculture and irrigation" and "transportation and communication" together absorbed 43.5 percent of the total development expenditure of the country during Repelita I as shown in Table 1.11. On the other hand, "education and youth" and "health and family planning" combined absorbed 8.5 percent of the resources. The Repelita II Plan which was finalized in 1974 envisaged the resource availability during Repelita II as 4.3 times in nominal terms the amount actually used during Repelita I (which represented a net increase of about 150 persent in real terms), and placed greater emphasis on health and education and less emphasis on the productive infrastructure. Specifically, the combined share of "education and youth" and "health and family planning" increased to 13.7 percent and that of"agriculture and irrigation" and "transportation and communication" decreased to 34.9 percent. In addition, the share of "industry and mining" was reduced by half, from 7 percent to 3.5 percent. These shifts in sectoral shares represented the Government's shift of emphasis from economic production to welfare of the people.

01.038 As Repelita II has evolved through subsequent annual budgets, these shifts in sectoral priorities have almost vanished. The combined share of "agriculture and irrigation" and "transportation and communication" has been above 40 percent from 1974/75 to 1976/77. The combined share of health- and education-related sectors has remained in the neighborhood of 10 percent. On the other hand, the industry and mining sector has in fact gained; its share is nearly 9 percent. The largest relative decline is seen in the "regional and local development" sector which represents subsidization of lower governments' development expenditure. Thus, the development efforts during Repelita II so far can be considered essentially as an extension of the direction established during Repelita I.

01.039 Given this background of national development, how the Province of Central Java has fared during the period is the subject of this section. It should be noted here that for the period of Repelita I

Table 1.10 Gross Domestic Products of Indonesia and Gross Regional Domestic Products of Central Java

		(Unit)	1969	1970	1971	1972	1973	1974	1975	Annual Growth Rate Per Year (%)	
Indonesia	GDP Current	(Rp. Bill.)[1/]	2,718.0	3,340.0	3,672.0	4,564.0	6,753.4	10,768.0	12,190.0	28.4	4.4849
	GDP Constant	(Rp. Bill.)[1/]	2,718.0	2,922.3	3,024.5	3,279.8	3,648.3	3,911.0	4,115.3	7.2	1.5141
	Population	(Mill.)[2/]	114.9	117.5	120.1	123.1	126.1	129.1	132.0*	2.3	1.1497
	Per Capita Current	(Rp)	23,655	28,426	30,575	37,076	53,556	83,408	92,279	25.5	3.9010
	Per Capita Constant	(Rp at the 1969 Price)	23,655	24,871	25,183	26,643	28,932	30,294	31,176	4.5	1.3170
	GDP Deflator		100.0	114.3	121.4	139.2	185.1	275.3	296.2	19.8	2.9620
Central Java[3/]	GRDP Current	(Rp. Bill.)	363.1	420.2	483.1	517.0	706.9	950.1	1,174.0	21.6	3.2333
	GRDP Constant	(Rp. Bill.)	363.1	379.8	392.4	414.3	426.4	441.4	468.3	4.3	1.2897
	Population	(Mill.)	21.0	21.5	21.9	22.3	22.6	22.9	23.2	1.7	1.1048
	Per Capita Current	(Rp)	17,319	19,616	22,064	23,223	31,320	41,441	50,665	19.6	2.9254
	Per Capita Constant	(Rp at the 1967 Price)	17,319	17,673	17,938	18,578	18,867	19,275	20,185	2.6	1.1655

Note : * indicates an estimated figure by the Study team.

Sources: 1/ Central Bureau of Statistics, the Central Government of Indonesia.

2/ BPS, Statistik Indonesia 1974/75, Jakarta, Indonesia.

3/ Kantor Sensus of Statistik in Central Java, Indonesia.

Table 1.11 Development Expenditure of the Central Government by Sector, 1969/70-1976/77

(Unit: Rp. Billion)

	Repelita I FY 1969/70-FY 1973/74 (Actual)		FY 1974/75 (Actual)		FY 1975/76[3] (Actual)		FY 1976/77 (Budget)		Repelita II FY 1974/75-FY 1978/79 (Plan)	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Total	Percent
Agriculture & Irrigation	267.8	21.7	301.8	31.4	257.0	18.4	373.9	19.5	1,001.6	19.1
Industry and Mining	85.7	7.0	70.7	7.4	124.1	8.9	167.2	8.7	185.8	3.5
Electric Power	108.5	8.8	79.0	8.2	127.7	9.1	210.0	10.9	387.8	7.4
Transportation and Communication	261.6	21.8	123.5	12.8	311.6	22.3	415.6	21.6	831.7	15.8
Regional and Local Development[1]	216.1	17.5	135.9	14.1	172.9	12.4	190.5	9.9	930.6	17.7
Public Enterprises[2]	n.a.	n.a.	97.8	10.2	115.4	8.3	122.1	6.4	562.9	10.7
Education & Youth	77.7	6.3	47.2	4.9	113.7	8.1	142.4	7.4	525.8	10.0
Health and Family Planning	27.3	2.2	25.3	2.6	37.7	2.7	50.1	2.6	192.1	3.7
Others	188.6	15.3	80.6	8.4	137.6	9.8	248.5	13.0	630.9	12.1
Total	1,233.3	100.0	961.8	100.0	1,397.7	100.0	1,920.3	100.0	5,249.2	100.0

Notes: 1/ The portion of development expenditures by provincial and local governments financed by the Central Government.
2/ The portion of development expenditures by government-owned enterprises financed by the Central Government.
3/ Preliminary estimates of the actual.

Sources: For 1969/70-1973/74, JICA, The Republic of Indonesia, LTA-14, Java Regional Study-Phase I, Part A, East Java, Final Report, December 1975, p.382.

For 1974/75-1976/77, Ministry of Finance.

there was no provincial plan as such and a provincial plan started with Repelita II. Nonetheless, in either case the development objectives and policies adopted for national development were in the main applied with equal force to all provinces subject to minor regional emphasis.

01.040 The assessment which follows is divided into two sections: (1) macroscopic aspects or the Province taken as a whole and (2) microscopic aspects or, more specifically, the spatial and sectoral distribution of the fruits of development within the Province.

1.2.2 Macroscopic Aspects

01.041 During the period of Repelita I and an early part of the Repelita II period, the economy of Central Java grew at slightly more than 4 percent per year while the national economy grew by approximately 7 percent (see Table 1.10). In terms of per capita GRDP, the growth from 1969 to 1975 is estimated at the rate of 2.6 percent per year. Despite a relatively small rate of population growth, this rate of improvement was much less than the national average which is estimated to be 4.5 percent during the same period. These observations do imply that the income disparity between Central Java and the nation certainly widened. According to the figures presented in Table 1.10, the per capita GRDP of Central Java was 73 percent of the comparable figure for the nation, and this proportion declined to 65 percent in 1973, and then slightly declined to 64 percent by 1975. As a substantial portion of the national growth during the period is accounted for by rises in the price of crude oil for export, widening of income disparity during this particular period might have been unavoidable. Nonetheless, a growth rate of 4.3 percent in GRDP was a poor performance.

01.042 When the period is divided into two -- the Repelita I period of 1969 to 1973 and the first two years of Repelita II -- acceleration of growth, from 4.1 percent to 4.8 percent per annum, is observable, as is shown in Table 1.12. When the growth is examined by sector, it is found that the acceleration of growth was led by the transportation sector, and then by the "industry and mining" and "trade, insurance and banking" sectors in that order. The change in the growth of the agricultural sector was minimal, as were the two combined sectors of construction-and-utilities and that of housing-and-services. As the phenomenal increase in the growth rate of the transportation sector is largely attributable to increases in air transport passengers and most of them do not originate in Central Java but in other parts of the country, particularly in Jakarta, this increase is considered to be induced by the national growth rather than generated within the Province. The increased growth rates in industry and trade can also be considered to have been induced by growth in demand elsewhere.

1.2.3 Microscopic Aspects

01.043 There are significant variations in productivity within the Province. As shown in Figure 1.7 and Table 1.13, GRDP per capita varies

Table 1.12 Real Growth Rate of GRDP by Sector in Central Java

(Unit: Percent)

Sector	Average Annual Real Growth Rate	
	Repelita I 1969-1973	1973-1975
Agriculture	2.9	3.1
Industry & Mining	4.9	5.5
Construction, Electric, Drinking Water & Gas	7.2	7.2
Trade, Insurance & Banking	6.7	8.0
Transportation	5.7	10.0
House Rent, Governmental & Services	2.5	2.4
Average	4.1	4.8

Source: Provincial Government of Central Java, Regional Development of Central Java with Special Emphasis on Policies, Results and Constraints, Semarang, 1975.

Table 1.13 GRDP Estimated by KB/KDY

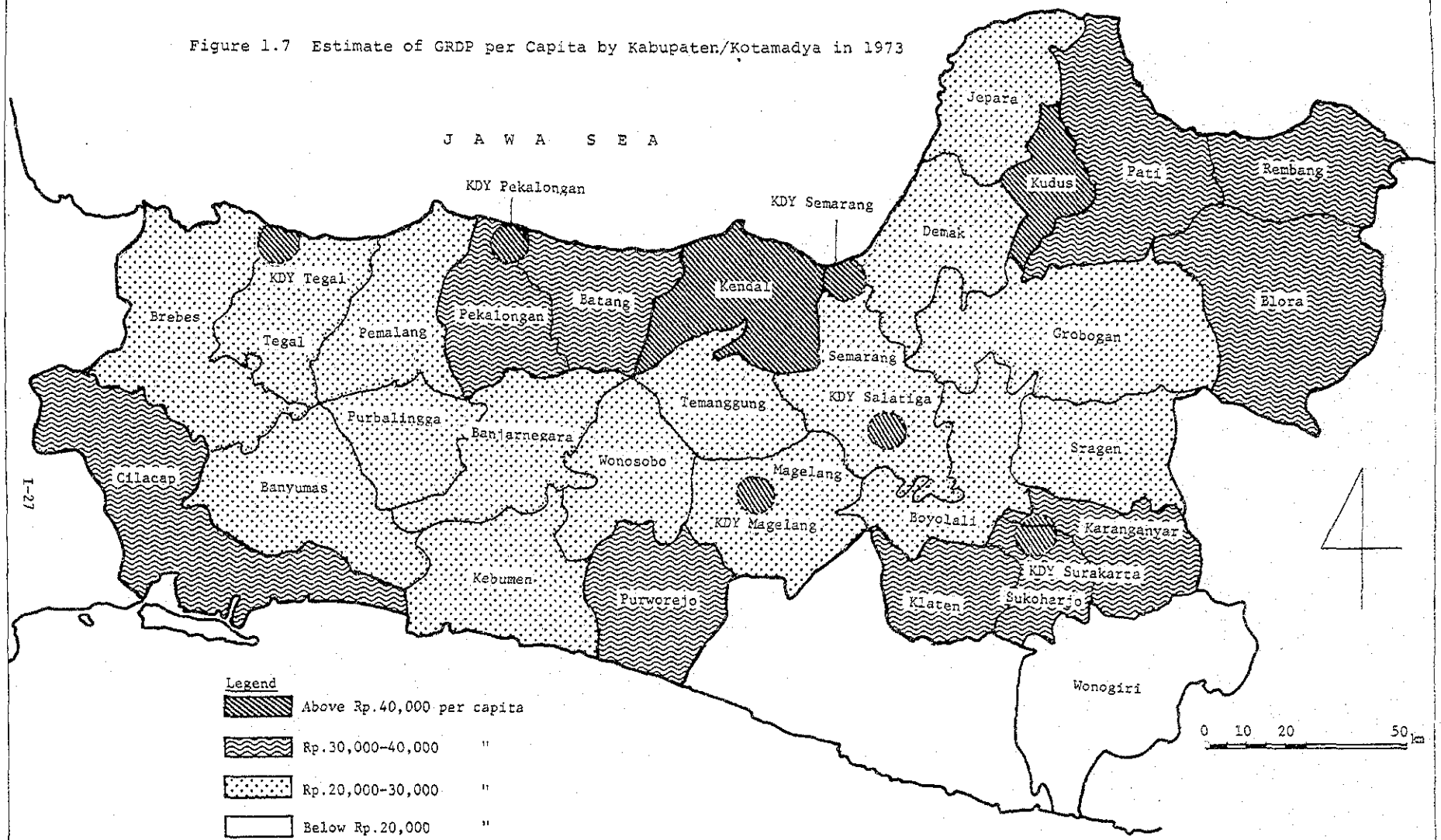
(Central Java, 1973)

(Unit: Rp. Million at Current Market Prices)

			Gross Regional Product	Population (x 1,000)	GRP Per Capita (Rp.)
1.	KDY	Magelang	4,464.44	111,020	40,212.9
2.	KDY	Surakarta	20,027.66	464,395	43,126.3
3.	KDY	Salatiga	3,033.61	67,097	45,212.3
4.	KDY	Semarang	34,569.40	692,060	49,951.4
5.	KDY	Pekalongan	6,692.01	111,007	60,284.6
6.	KDY	Tegal	4,366.29	107,689	40,545.4
7.	KB	Cilacap	36,952.50	1,217,335	30,355.2
8.	KB	Banyumas	30,963.68	1,031,934	28,618.7
9.	KB	Purbalingga	16,974.88	602,776	28,161.2
10.	KB	Banjarnegara	12,870.41	609,820	21,105.3
11.	KB	Kebumen	25,336.54	953,197	26,580.6
12.	KB	Purworejo	23,024.83	667,842	34,476.5
13.	KB	Wonosobo	15,048.08	530,306	28,376.2
14.	KB	Magelang	20,328.23	842,104	24,139.8
15.	KB	Boyolali	19,037.61	726,746	26,195.7
16.	KB	Klaten	36,818.22	1,015,895	36,242.2
17.	KB	Sukoharjo	19,584.91	517,024	37,880.1
18.	KB	Wonogiri	17,851.89	921,190	19,379.2
19.	KB	Karanganyar	15,874.34	523,205	30,340.6
20.	KB	Sragen	19,260.58	672,034	28,658.6
21.	KB	Grobogan	26,752.25	910,187	29,392.0
22.	KB	Blora	22,692.07	625,852	36,257.9
23.	KB	Rembang	12,030.21	380,194	31,642.3
24.	KB	Pati	30,187.32	862,810	34,987.2
25.	KB	Kudus	25,187.73	457,606	55,041.5
26.	KB	Jepara	17,817.73	604,641	29,468.3
27.	KB	Demak	17,952.44	605,853	29,631.7
28.	KB	Semarang	19,840.93	691,920	28,675.2
29.	KB	Temanggung	14,506.12	483,736	29,987.7
30.	KB	Kendal	26,980.94	669,253	40,315.0
31.	KB	Batang	16,007.38	473,121	33,833.6
32.	KB	Pekalongan	20,548.14	570,445	36,021.2
33.	KB	Pemalang	19,218.10	819,345	23,455.4
34.	KB	Tegal	25,911.20	899,073	28,819.9
35.	KB	Brebes	28,292.11	1,085,797	26,056.5
Total or Average			707,004.05	22,574,509	31,318.7

Note and Source: See Table D.1 of Appendix D.

Figure 1.7 Estimate of GRDP per Capita by Kabupaten/Kotamadya in 1973



Source: Table D.1 of Appendix D.

from the low of Rp.19,000 to the high of nearly Rp.60,000 per capita in 1973. Generally, kotamadyas have higher GRDP per capita than kabupatens. Among them, the port cities in the north, Semarang, Pekalongan and Tegal, have higher levels. Among kabupatens, Kudus has the highest but much of it is due to manufacturing production, and especially by large and medium scale industries. In fact, this kabupaten is one of the most developed in regard to kretek tobacco and printing production.

01.044 Relatively high income kabupatens are located in three areas: (1) along the northern plain, e.g., from Pekalongan to Kendal, (2) in the northeastern plain, e.g., Kudus and Pati, and (3) on the foothill of Mt. Merapi and the Solo River Basin, e.g., Purworejo, Klaten and Sukoharjo. Low income kabupatens are located in two areas: (1) in the mountainous area in the middle of the Province, e.g., Banjarnegara and Wonosobo, and (2) the southeastern end of the Province, i.e., Wonogiri.

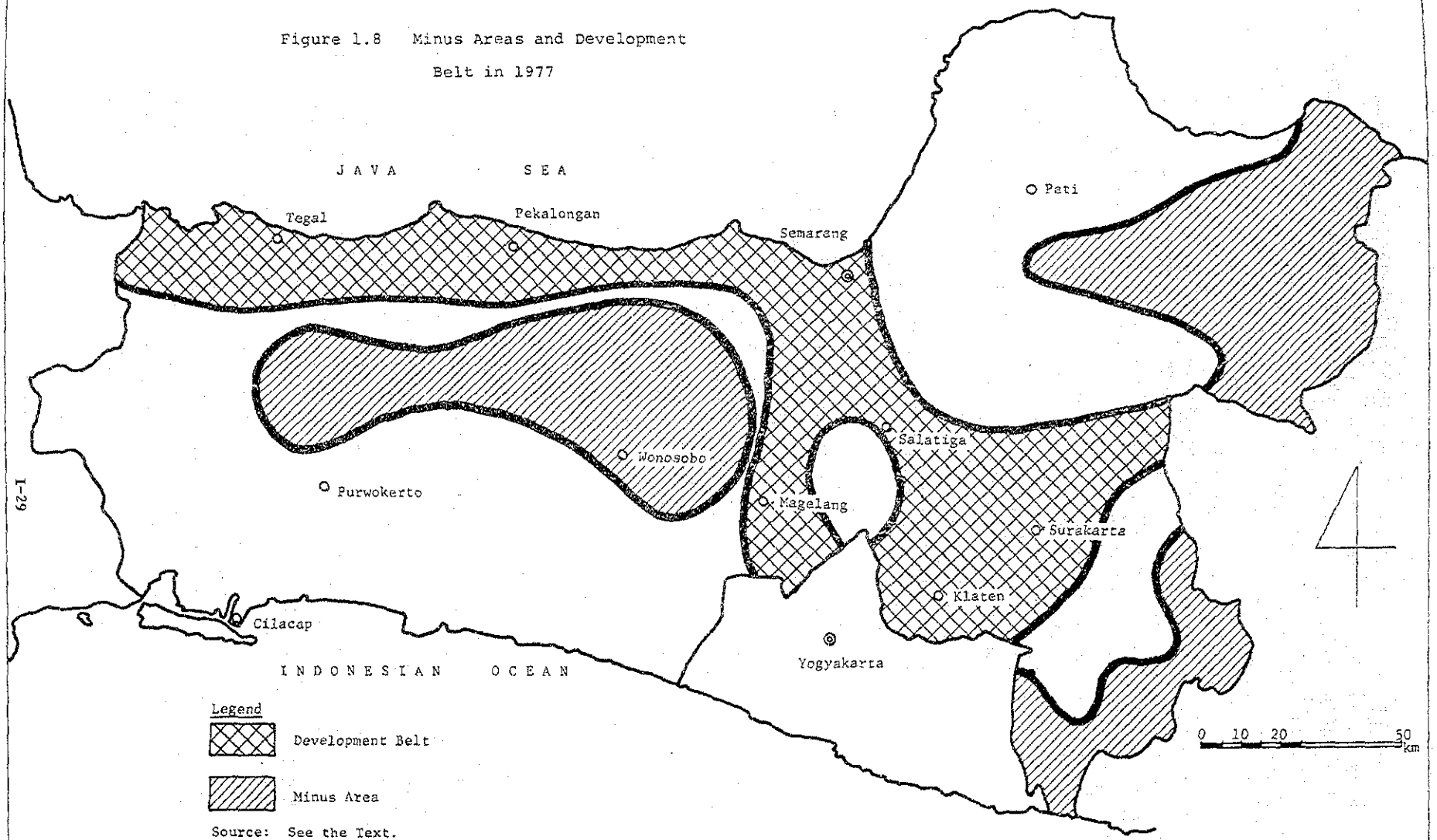
01.045 These GRDP per capita estimates by kabupaten and kotamadya conceal much of the real differences in productivity among areas because many kabupatens do contain significantly heterogeneous elements within each of them. Pekalongan is a notable example. The northern half of the kabupaten is an extremely fertile and well-managed paddy area, but the southern half is mountainous and hardly accessible.

01.046 Therefore, attempts were made by the Study team to delineate geographically the less developed areas within the Province. Such areas, being called "minus areas", had been identified by Dr. Mubyarto before.[1/] We have benefited significantly from his work. The delineation presented here is based, in addition, on our observations made during the field trips by various sectoral experts, remarks made by provincial and kabupaten or kotamadya government officials and examinations of topographic and geological features as well as GRDP estimates by kabupaten and kotamadya. The Minus Areas delineated are presented in Figure 1.8. Those areas are characterized by low productivity and poor prospects for development. Consequently, from the viewpoint of improving the distribution of income within the Province, those areas should become targets of serious examination.

01.047 On the other hand, there are areas which are already relatively developed within the Province. Those areas stretch along the national highways within the Province and comprise basically two areas: (1) the narrow strip of the coastal area in the north from Brebes to Semarang, and (2) the area between Semarang and Yogyakarta including the area along the national highway to the east. As this area is already relatively developed and appears to have further potential for development, the area can be called "Development Belt" (see Figure 1.8).

1/ Provincial Government of Central Java, Rencana Pembangunan Daerah/ Modernisasi Desa Tahap II 1974/75-1978/79, 1974.

Figure 1.8 Minus Areas and Development Belt in 1977



Source: See the Text.

01.048 Based on the estimated GRDP by kabupaten and kotamadya and simple allocation of the estimates into the areas defined above, each of the areas is estimated to have the following per capita GRDP and population in 1977:

	Population in 1,000 Persons	Per Capita GRDP in Rp.	GRDP in Million Rp.
1. Development Belt	9,820	76,519	751,380
2. Minus Areas	5,871	54,138	317,854
3. Other Areas	8,458	70,076	592,736
4. Province Total	24,149	68,821	1,661,970

Source: Table D.1 of Appendix D and Figure 1.8.

01.049 The above estimates imply that the income level of the Minus Areas is about 70 percent of the Development Belt. Due to the allocation methods used for deriving the extimates, the differential is underestimated. The true differential would more likely be close to 1:2.

1.3 General Evaluation of Repelita II

1.3.1 General Background

01.050 Indonesia is now in the fourth year of Repelita II (1974/75-1978/79). This plan was formulated on the basis of the successful development performance of the country during Repelita I, and basically aims at maintaining the expansionary trend of the economy. In addition, new emphasis has been added in the major development objectives. Not only economic development but also its distribution and improvement in health care and educational services have become significant policy objectives. During Repelita II, the country was experienced favorable multi-fold increases in export revenue due to the "oil shock" and, consequently, the development expenditure of the Central Government grew remarkably.

01.051 Although the overly optimistic view on the availability of development resources which prevailed around 1974 has subsided along with the worsening trend of the balance of payments due partly to improper management of oil revenues and partly to readjustment of international prices, the economy is considered to be able to maintain

a healthy rate of growth such as 7 percent. In the meantime, the Central Government was able to expand and structure a series of INPRES programs to meet specific needs of local communities (see Chapter XIII for fuller discussion of INPRES programs). The INPRES programs originated with the purpose of employment creation through public works in every local community and now aim at helping economically weak strata of the population as well.

01.052 The strengthening of these programs aimed at economically weak areas should have helped areas such as Central Java, but the available information does not confirm this hypothesis. The income level of Central Java has been declining relative to other provinces as shown below.

Relative Per Capita GRDP of Several Provinces

Province	1969	1970	1971	1972	1973	1974	1975
Central Java	100	100	100	100	100	100	100
D.K.I. Jakarta	303	319	327	370	357	434	
South Kalimantan	154	146	146	153	163		
Central Sulawesi	64	68	72	93	117		
Maluku	130	130	151	152	175		
Nation	137	145	139	160	171	210	182

Source: Table 13.16.

Although the provinces shown above are only those for which data are available and represent only about a fifth of all the provinces, the table indicates that Central Java is falling farther behind other provinces and has been taken over even by a hitherto less developed province.

01.053 A part of the reason for the stagnation of this province should be found in the resource allocation for development by the Central Government. Table 1.14 shows the allocation of development resources by the Central Government to selected provinces. Several observations are possible. First, although Central Java has a share of 20 percent in the nation in terms of population, the Province has been receiving about a half of that 20 percent share in terms of development resources. Second, the share of the Province in development resource allocation declined from 1969 to the early 1970's. This fact may have aggravated the inter-provincial disparity relative to Central Java. Third, during the period of Repelita II, Central Java has been receiving about a half of the national average on the per capita basis.

Table 1.14 Resource Allocation for Development by the Central Government to Selected Provinces

	1969/70		1970/71		1971/72		1972/73		1973/74		1974/75		1975/76		1976/77		Per Capita Expenditure
	Rp. Mil.	Share	Rp. Mil.	Share	Rp. Mil.	Share	Rp. Mil.	Share	Rp. Mil.	Share	Rp. Mil.	Share	Rp. Mil.	Share	Rp Mil.	Share	1974/75-1976/77
D.K.I. Jakarta	12,482	20.7	33,062	34.9	31,674	29.4	45,781	31.8	na	-	73,145	34.9	137,202	32.1	202,068	35.0	88,800
West Sumatra	1,099	1.8	1,812	1.9	2,794	2.6	4,932	4.0	na	-	5,329	2.5	11,236	2.6	12,069	2.1	9,900
West Java	9,541	15.8	12,658	13.4	14,945	13.9	19,387	13.5	na	-	25,907	12.4	49,617	11.6	59,504	10.3	6,100
Central Java	8,451	14.0	9,203	9.7	9,116	8.5	12,433	8.6	na	-	20,092	9.6	40,162	9.4	56,723	9.8	5,200
East Java	7,684	12.7	9,474	10.0	12,140	11.3	14,587	10.2	na	-	18,416	8.8	35,596	8.3	44,214	7.7	3,800
West Nusa Tenggara	347	0.4	510	0.5	475	0.4	657	0.5	na	-	1,404	0.7	na	-	5,600	0.1	
Riau	656	1.1	835	0.9	1,359	1.3	1,677	1.2	na	-	2,547	1.2	9,701	2.3	8,976	1.6	12,200
West Kalimantan	575	1.0	835	0.9	1,507	0.9	1,507	1.0	na	-	2,810	1.3	7,771	1.8	11,195	1.9	10,200
Indonesia	60,370		94,636		107,588		143,893				209,525		427,997		577,629		9,900

Note: na indicates "not applicable".

Sources: 1) For Population; BPS, Statistik Indonesia 1974/1975, Jakarta, December 1975.
2) From 1974/75 to 1976/77; Rancangau Daftar Proyek-Proyek, various issues obtained from BAPPENAS.
3) From 1969/70 to 1972/73; BAPPENAS.

1.3.2 Outline of Central Java Repelita II

01.054 The basic thought of the regional development plan of Central Java is an application, support and implementation for attaining national goals which are formulated in the national development plan. Based on the above thought, the Central Java Regional Plan[2/] (hereafter refered as the Central Java Repelita II) is vague in its development of objectives and tactics which are consistent with the national objectives. This is seen to be an appropriate approach for two reasons. One reason is that the major characteristics of the Provincial socio-economic situation are quite similar to that of the national ones, i.e., its large population, heavy rural orientation and, consequently, low income and low level of social services on a per capita basis. Another reason is that development finance in the Province is mainly supplied from the Central Government and a large amount of investable funds is directly converted by expenditure by the Central Government into economically productive assets. Especially the employment-oriented development strategy through improvement of the agricultural sector in the national plan is well suited to Central Java for the time being; however, the plan may need more emphasis on an employment expansion strategy through manufacturing development.

01.055 The main characteristic of the Plan is a very loosely defined macro-economic framework and provides a great flexibility for allocating investable resources in each year. There is no indication of the relation between the governmental investments and the private investments; however, the Plan estimates the available investable funds for the Provincial Government as follows:

Available Funds for the Provincial Government during Repelita II

(Unit: Rp. Million)

	1974/75	1975/76	1976/77	1977/78	1978/79	Total
From the Central Government	4,168	5,542	6,650	7,980	9,576	33,916
Own Revenues	836	1,004	1,204	1,445	1,734	6,223
Regional Savings	638	766	919	1,103	1,324	4,750
Total	5,642	7,312	8,773	10,528	12,634	44,889

2/ This is described in Rencana Penbangunan Daerah/Modernisasi Desa Tahap II 1974/75-1978/79, by the Provincial Government of Central Java, published in 1974.

Since there is no indication whether or not figures are based on a real price, it is very difficult to derive any implication from them. Even if they are based on current prices, own revenues which are growing at almost 20 percent a year implies that the growth rates of GRDP and total investment are planned to be not smaller than those of the Repelita I period. The implication of a greater growth rate of GRDP will be a reasonable one since a large amount of funds went into infrastructure in Central Java during Repelita I and they have become productive assets already. But if own revenue estimations are based on a constant price, the growth rate of GRDP must be significantly higher than that of the Repelita I period.

01.056 The allocation of investable resources during Repelita II is planned to strengthen and support the achievements of Central Java Repelita I. In the Plan, targets were directed to attain an expansion of food production through the rehabilitation of infrastructure and to attain a large increase in employment opportunities in order to support national development. Central Java Repelita II does not reveal a whole picture of resource allocation since it does not include an expected allocation of the Central Government funds. But its emphasis on the economic sector can be seen from the allocation of regional development funds. As shown in Table 1.15, the share of the economic sector increased by 20 percent from the Repelita I allocation, whereas other sectors' shares declined significantly from the Repelita I period. One of the main reasons for this allocation originated from Central Governmental resource allocations. In 1973 and 1974, the Central Government developed new programs such as INPRES/SD and INPRES/Health, and also it started emphasizing family planning programs through the departmental project financing. So, these programs might relieve the Provincial Government from the need to spend resources in the social sector and enable the Provincial Government to concentrate its efforts on the economic sector. The annual allocation of public investment during Repelita II planned by the Provincial Government is shown in Table 13.14.

01.057 The supreme goals of Central Java Repelita II are (1) improvement of the welfare of all the people by increasing real income and (2) creation of a solid foundation for further development of its rural society. To attain the supreme goals, the Plan defines more specific targets and tries to reach the goals indirectly through these targets. They are (1) expansion of food, clothing and housing supply; (2) development of infrastructure, particularly in irrigation systems, harbors and electricity supply systems, and (3) improvement of people's welfare and expansion of employment opportunities.

01.058 Even though the Plan allows a great flexibility for budgeting in each year, a planned resource allocation and attainment of the goals are loosely translated into the following general policies:

(1) Expansion of agricultural production,

(2) Promotion of industrial development especially in industries which process raw materials into manufactured goods,

Table 1.15 Comparison of Resource Allocations Between Central Java Repelita I and II

(Unit: Percent)

Field	Repelita I (Realized)	Repelita II (Planned)
Economic	39.7	59.6
Social	21.2	16.5
General & Subsidy	34.7	23.9
Total	100.0	100.0

Source: Provincial Government of Central Java, Rencana Pembangunan Daerah/Modernisasi Desa Tahap II 1974/75-1978/79, Propinsi Daerah Tingkat I Jawa Tengah, Semarang, Indonesia, November 15, 1974.

(3) Promotion of transmigration and family planning programs, to reduce the population pressure,

(4) Improvement of general health conditions,

(5) Improvement of non-formal education especially for the rural people,

(6) Promotion of capital accumulation in the small scale manufacturing establishments.

01.059 For regional development, the Plan emphasized balance in sectoral and district development. In this context, the Plan divides the Province into several districts, each having special characteristics, and indicates that development efforts should be suited to each district concerned. Some of the economic districts which the Plan characterizes are as follows:

(1) Four areas classification based on their prominent economic activities:

- North Coast Development Zone which includes Tegal, Pekalongan, Semarang and Kudus;
- Southern Port Development Zone which includes Cilacap as a center;
- Southeast Development Zone which consists of Salatiga, Magelang, Klaten and Surakarta; and
- Minus Areas.

(2) River basin areas.

(3) Villages on the basis of their characteristics.

(4) Development areas:

- Pekalongan and the surrounding area;
- Semarang and the surrounding area;
- Cilacap and the surrounding area; and
- Surakarta and the surrounding area.

(5) Regency on the basis of their characteristics.

The Plan mentions the above areas, but it neither indicates any strategical area nor any priority project towards regional development for Central Java Repelita II. And it only implies that specific tactics will be incorporated in each year's development budget allocation. Since the Plan does not provide any specific guide for resource allocations, it might create a great confusion and inconsistency for every year's budget allocation.

1.3.3 Evaluation of Performance

01.060 As the governor's speech suggests, the major problems of Central Java are still insufficient food supply and lack of employment opportunities.[3/]

(a) Production of Foodstuffs

01.061 In 1975, per capita production of staple food in rice equivalent was 156.85 kg. This will provide around 1,600 calories daily. If other food items such as vegetables, fruits and high protein foods are included in daily consumption, the calorie intake might be almost enough for an average person. At the moment, there is not any severe shortage of foodstuffs theoretically; however, if the population growth is not constrained, there will be a big chance of a foodstuff shortage. Because of many limiting factors, expansion of food production in the Province will not be easily attainable.

01.062 Among foodstuffs, paddy has been a leading crop in terms of both volume and growth rate. Especially growth of paddy production was remarkable during the first year of Repelita II. Other crops except maize have rather stagnant production progress. This phenomenon may be due to a great emphasis on irrigation and infrastructure improvement during Repelita I. As a result of the rapid growth of paddy production, per capita available staple food expanded from 138.9 kg per capita per year in 1969 to 156.85 kg per capita per year in 1975, as shown in Table 1.16. Available protein foods expanded faster than staple food as also shown in the table. Paddy production grew at around 3.0 percent annually, which was slightly higher than that of the population growth rate, from 1969 to 1975. If this trend continues until the end of Repelita II, per capita rice equivalent staple food available will be around 166 kg and this amount will provide 1,700 calories daily.

01.063 Provided that the available rice equivalent staple food was 151 kg per capita in 1975, per capita consumption of staple food will not grow remarkably in the future. The main growth factor of staple food consumption is the size of the population, which is expanding at around 1.8 percent a year.

01.064 A more serious problem will originate from a change in food consumption patterns in the future. As their incomes grow, people consume more protein foodstuffs and less staple food. As shown in the table, available protein foodstuffs were 12.96 kg per capita per year (35.5 g per capita per day) and did not increase since 1973. There are some doubtful factors related to per capita available protein. One of them is concealed in Table 1.16. When the annual per capita available

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3/ The Central Java Provincial Governor's speech on July 5, 1976, which is printed in Regional Development of Central Java With Special Emphasis on the Policies, Results and Constraints, by the Provincial Government of Central Java, published in 1976.

Table 1.16 Annual Per Capita Available Foodstuff

(Unit: kg)

		1969	1970	1971	1972	1973	1974	1975	Average Growth Rates
Crops (Rice Equivalent)	Per Capita (kg)	138.86	136.88	140.00	135.87	151.75	155.15	156.85	5.81
	Index	100.0	98.57	100.82	97.85	109.27	111.75	112.96	
Protein Foods	Per Capita (kg)	10.68	11.87	11.63	10.93	12.94	12.82	12.96	3.25
	Index	100.0	111.14	108.90	102.34	121.12	120.04	121.13	

Source: Governor's Speech. See footnote 3/.

foodstuffs were calculated as in the table, population growth rates were assumed as 1.3 percent during Repelita II. However, the figure may be a very conservative one and actual growth may be higher than that. Another problem is the stagnation of cow equivalent livestock population increase in recent years. This trend may result in a stagnant per capita available protein food supply growth in a next couple of years.

01.065 From the nutritional view point, the available production, either of staple food or protein, are still at an insufficient level. The nutritional requirement, approximately 160 to 170 kg per capita per year rice equivalent staple food, is still not reached and slightly above the present available level 156.85 kg. If the present growth continues, the minimal standard level will be attained by 1979. The actual available protein production, which was 35.51 g per capita per day in 1975, is still under the nutritional minimal level standard of 40 g per capita per day. As indicated above, the prospect for the protein production trend is very bleak and this sector may require careful attention from policy makers.

(b) Regional Income and Employment

01.066 The estimated figures of gross regional domestic products are shown in Table 1.17. From the table, it is clearly identified that the annual increase rate of GRDP during the five years of Repelita I was about 4.4 percent and during the first two years of Repelita II was about 4.8 percent in real terms. The real per capita income increased annually at the rate of 2.2 percent during the Repelita I period and 3.5 percent during the Repelita II period. However, the table used a 1.3 percent population growth rate a year during Repelita II. It might be quite an underestimation of the growth rate and the growth rate of real per capita income would be much smaller than that of the Table 1.17.

01.067 The growth rates of productive sectors during Repelita II are summarized in the first column of Table 1.17. The sectors which grew more than the average are: industry and mining; construction, electricity, drinking water and gas; trade, insurance and banking; and transportation. The agriculture, the services and other sectors grew less than the average.

01.068 In 1975, the total labor force was distributed among those economic sectors as shown on the fourth column in Table 1.18. For the time being it is clear that the agricultural sector plays an important role in absorbing labor.

01.069 Estimation of the demand for labor in the Province is difficult because of the limited availability of reliable employment data for recent years. Based on the available data, growth rates of the labor force by sector were calculated and are shown in the second column of Table 1.18, whereas employment elasticities by sector were calculated from sectoral growth rates and labor force growth rates, and are shown in the third column in Table 1.18. Even though the

Table 1.17 Gross Regional Domestic Products by Sector

(Unit: Rp. Billion)

		1969	1970	1971	1972	1973	1974	1975
Agriculture		185.4	194.7	195.9	205.0	207.6	213.1	220.8
Industry & Mining		49.1	48.6	53.7	53.6	59.4	61.0	66.1
Construction Electricity, Gas & Water		8.1	9.1	9.3	10.3	10.7	11.3	12.3
Trade & Finance		75.1	82.4	85.2	96.6	97.4	102.3	113.7
Transportation		8.0	8.5	9.0	9.5	10.0	11.0	12.1
House Rent, Government & Services		37.4	36.5	39.3	39.3	41.3	42.2	43.3
Total		363.1	379.8	392.4	414.3	426.4	441.4	468.3
Index		100.0	104.6	108.1	114.1	117.4	121.6	129.0
Population (Mil. Persons)	Total	21.0	21.5	21.9	22.3	22.6	22.9	23.2
	Index	100.0	102.4	104.2	106.2	107.7	109.0	110.5
Per Capita Income at 1969 Constant Prices		17,319.45	17,672.82	17,937.96	18,578.48	18,867.26	19,275.11	20,185.34
	Index	100.0	102.1	103.7	107.4	109.0	111.5	116.7
Per Capita Income at Current Prices		17,319.45	19,616.83	22,063.69	23,223.10	31,319.65	41,441.49	50,665.20
	Index	100.00	110.63	123.11	124.81	165.79	215.25	250.69

Source: Kantor Sensus & Statistik in Central Java, 1977.

Table 1.18 Growth Rate of Employed Labor Force by Sector

	Annual Rate of Output Increase (1973-75) (%) (1)	Annual Rate of Employment Increase (1973-75) (%) (2)	Employment Elasticity (3)=(2)/(1)	Share of Employment (%) (4)	Employment 1975 (1,000 Persons) (5)	Annual Increment in Employment (1,000 Persons) (6)=(2)x(5)
Agriculture	3.1	0.39	0.126	53.4	4,497.2	17.5
Industry & Mining	5.5	3.74	0.684	13.8	1,162.2	43.7
Construction, Electricity Gas & Water	7.2	8.85	1.229	1.8	151.6	13.4
Trade, Insurance & Financing	8.0	8.88	1.110	18.8	1,583.3	140.6
Transportation	10.0	2.62	0.262	1.9	160.0	4.2
Services & Others	2.4	1.64	0.683	10.3	867.4	14.2
Total Employed	4.8	2.62	0.546	100.0	8,421.7	220.6
Population		1.35				
Manpower		2.62				
Unemployed		2.62				

Note: For the number of future labor force including those unemployed, see Section 2.4.2 (a).

Source: Calculated from the available data in the Provincial Governor's Speech before the Students, by the Provincial Government of Central Java, Semarang, published on July 5, 1976.

agricultural sector has the largest labor force, its labor growth rate is the smallest. On the contrary, the construction, electricity, gas and water and the trade and financing sectors show large labor growth rates. The manufacturing and mining and the services and other sectors also have fairly large growth rates.

01.070 A very rough indicator of the magnitude of employment created annually can be calculated on the basis of the above indicated figures. The results of the calculation are shown in the last column in Table 1.18. The order of magnitude of annual increment in employment in Central Java is around 220,000. This is just the same as the annual increment in the Province's labor force which was shown in the Governor's speech, so the unemployed labor force also will grow at the same rate as the Province's labor force grows. This exercise indicates that substantial structural changes are required for the unemployment problem of the Province to be eased.

01.071 As indicated in the last column in the table, the labor-absorption capacity of the Province's agricultural sector is not very large, so the main burden of employment creation must be borne by the manufacturing, trade and banking sectors. Among the sectors, the trade and banking and the manufacturing and mining sectors, absorb the largest number of labor force members, and this trend will continue in the future. Highly developed and intermediately developed countries' experience indicates that, at first, the manufacturing sector grows at an accelerated rate for a certain period and then the trade and banking sector takes over and surpasses the former.

01.072 For the sake of employment expansion, investment in the sectors which have large labor absorption capacity should be encouraged in the future. But the most serious weakness of the Province's employment strategy is the lack of clear orientation for development of the overall manufacturing sector, which has high labor absorption capacity. Public funds will not have to be invested directly in physical production assets in the manufacturing sector, but should be invested to create a favorable environment for private investment in the manufacturing sector. A lack of public attention to the manufacturing sector can be seen clearly in a well publicized Cilacap industrial development plan. According to the Study team's industrial expert, despite the significant potential and the development achieved in Cilacap, its future for creating an industrial complex appears to be rather limited at least for a short period. The main factor which led to this conclusion is a lack of indispensable prerequisites such as infrastructure for the further development of Cilacap as a major industrial center in Central Java.

01.073 Other achievements of the manufacturing sector can not be evaluated properly due to a lack of sufficient information. But, as far as approved investment is concerned, private investment activities have been accelerated from the Repelita I level. And, the relative share of private investment in total development finance went up significantly from the Repelita I level. On the approved basis,

the value of private investment projects in 1974 was almost as large as their total value during Repelita I. This might be one of the factors contributing to an accelerated GRDP growth of the Central Java economy in 1974 and 1975. If so, further public investment should be used as a lever to induce private investment in prospective manufacturing industrial areas of the Province.

1.4 Development Objectives

1.4.1 The National Background

01.074 The People's Assembly (MPR) issued the following regional development objectives as part of the Outline of National Policies:[4/]

(1) Promotion of harmony between sectoral and regional development efforts,

(2) Balanced growth among the regions of the country,

(3) Development of the administrative capacity of the regions to enable full participation in development effort, and

(4) The total development of Indonesia as an economic unit.

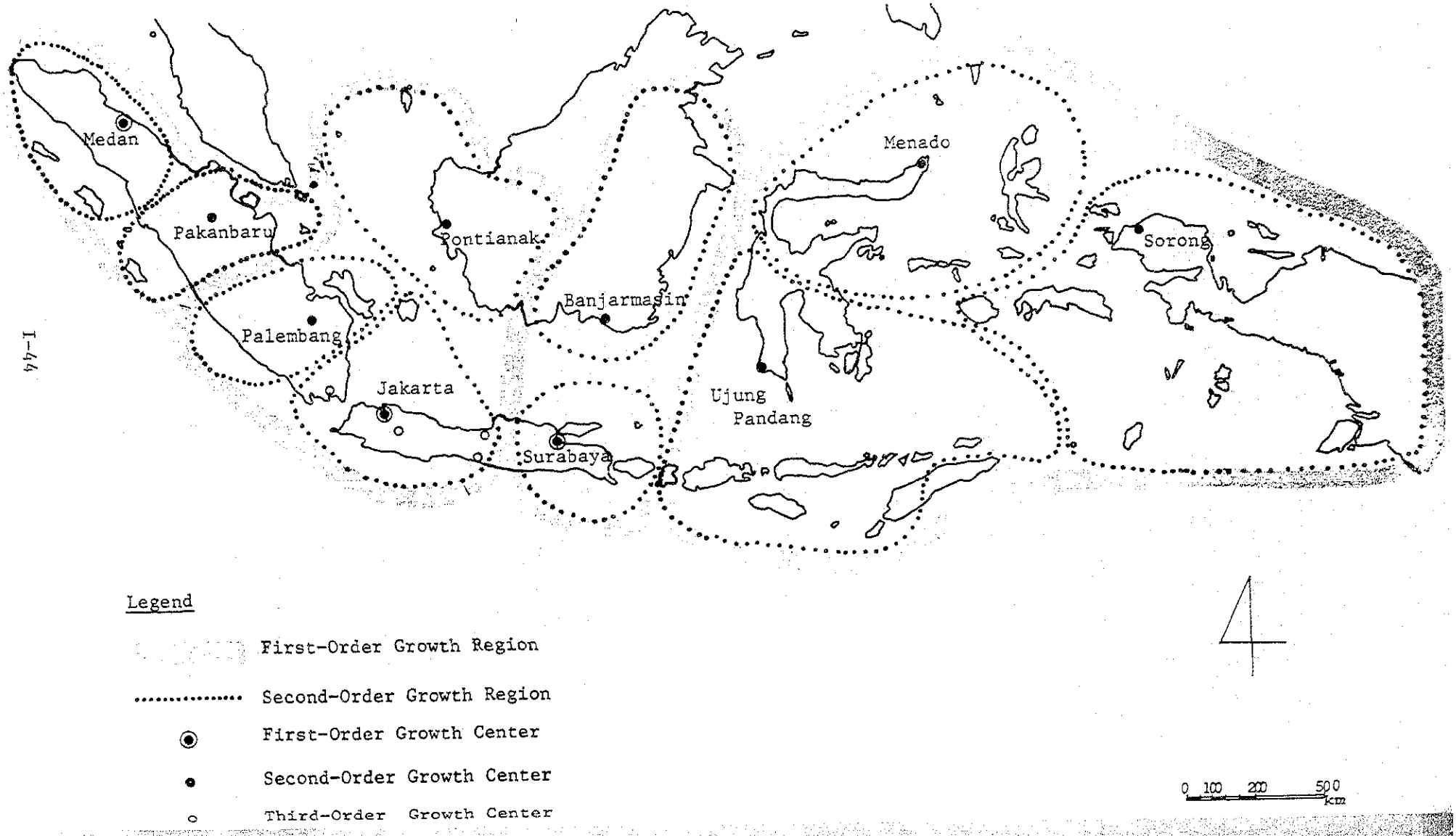
These regional development objectives should be interpreted in the context of national goals such as unity, social and economic development, and equitable distribution of the fruits of development.

01.075 The Republic of Indonesia is characterized by the large spatial extension of the country and the diversity within it. The current policy of the Central Government with respect to regional development planning is to attempt to achieve the four objectives described above through organizing the entire territory into four large regions (see Figure 1.9).

01.076 A notable feature of this regional organization is tying of traditionally developed parts with newly developing areas which are separated by sea. Central Java belongs to the second region along with the southern part of Sumatra, West Kalimantan, Jakarta and West Java.

4/ Directorate of City and Regional Planning, Short Note on Regional Development Planning: An Indonesian Case, Directorate General of Housing, Building, Planning and Urban Development, Indonesia Ministry of Public Works and Electric Power, 1975, p. 2.

Figure 1.9 Planning Regions and Centers in Indonesia's Regional Development Scheme, Indonesia, 1977



01.077 Except some flows of transmigrants to Sumatra and Kalimantan, practical potentials of this regional grouping has not yet been realized. But, indeed the regionalization scheme itself is consistent with the objective of national unity, the fourth objective of MPR stated above. Only through specific measures to be adopted in the coming years would this regionalization scheme come to have practical significance.

1.4.2 Development Objectives

01.078 According to Central Java Repelita II, the development objectives of this Province are identical with those of the nation as a whole as described in section 1.3.2, "Outline of Central Java Repelita II, above. More recently, Mr. Soepardjo, Governor of Central Java, elaborated on the problems and development objectives of the Province as follows. He identified these objectives:

(1) To fit in the national programs;

(2) To improve the living standard and social welfare of the people by solving the main problems in relation to development and by improving the utilization of all resources; and

(3) To build a strong foundation for the later development programs.

Problems he identified are:

(1) Central Java produced 152 kg per capita per year of rice equivalent staple food in 1973/74, which is slightly more than 150 kg per capita per year which is the national target of food provision to its population. But the growth rate of staple food production might be lower than that of population, and there might be a food shortage;

(2) The growth rate of employment was lower than the growth rate of the labor force, and there will be more unemployed in the labor force;

(3) Arable land per agricultural land owner is 0.3 ha which is very small; and

(4) Infrastructure, especially roads, bridges, seaports, irrigation in some places, and electricity supply are in poor condition.

Based on these objectives and problems, Governor identified the following priorities:

(1) Agricultural development;

(2) Industry, especially those which process raw material into intermediate industrial goods;

(3) Transmigration and family planning;

(4) Infrastructure development;

(5) Synchronization of urban and rural development;

(6) Exploration and exploitation of natural resources;

(7) Land use planning and fixing legal land ownership;

(8) Counseling, guidance, and assistance to small business especially with fund raising;

(9) Education to meet development needs; and

(10) Achievement of higher efficiency of personnel in development.

These objectives and priorities are rather vague but seem to stress increasing people's welfare by economic development rather than by equity oriented measures although they are intended to conform to the national objectives which stress both efficiency and equity in development.

01.079 Efficiency and equity objectives are the classic dichotomy in regional development. This dichotomy may not exist under some circumstances, but it is not the case for Central Java. Emphasis among these two objectives will significantly affect the choice of development strategies. This will be discussed in Chapter XIV, *Development Strategy and Program Recommendations*.

CHAPTER II

HUMAN RESOURCES

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HUMAN RESOURCES

2.1 Profile of the Population Structure

2.1.1 The Population and Its Growth Trend Until 1976

(a) General

02.001 The latest data available on the Province's population is the registration in May 1976; There were about 23,424 thousand people registered in Central Java. If we assume the same growth rate continued to the end of the year, the population should have amounted to 23,765 thousands in December 1976.

(b) Trend of Population Growth Until 1971

02.002 Table 2.1 presents population figure from censuses in 1930, 1961, and 1971. It is remarkable that the population growth rate accelerated in the 1960s as compared with the previous three decades for the whole nation of Indonesia, if we assume that the inaccuracy of the Census in 1930 is not more serious than in the cases of the following censuses. Especially in Central Java, the growth rate almost doubled during 1961 to 1971 as compared with the 1930 to 1961 average. In terms of regional difference, the average growth rate for 1961 to 1971 in Central Java (which is 1.742 percent) is lower than that of the whole island of Java and Madura (1.908 percent) or than that for the whole nation of Indonesia (2.083 percent). The trend of population growth during 1960s is difficult to know due to lack of a reliable source of data for the decade, but a close examination of the population structure tabulated from the 1971 Census at least indicates an accelerating growth rate towards the end of the decade; while average growth rates for 1961 to 1971 were 1.742 percent for Central Java and 2.083 percent for the whole nation, growth rates in 1971 as estimated from the age structure of that year are 2.016 percent and 2.469 percent respectively.

(c) Population Growth Since 1971

02.003 After 1971, the population growth trend may have possibly decreased, by a small margin of 0.1 to 0.4, until 1976. But the extent of the reliability of this is uncertain.

Table 2.1 Population of Central Java 1930, 1961, and 1971

(Unit: Thousand Persons)

	Census			Annual Growth Rate	
	1930	1961	1971	1930/61 (in percent)	1961/71 (in percent)
Central Java	13,706	18,407	21,877	0.956	1.742
Java & Madura	47,718	62,993	76,102	1.338	1.908
Indonesia	60,593	97,019	119,232	1.530	2.083

Source: 1930,'61,'71 Census, BPS

Table 2.2 Growth Trend of Population After 1970

		Registration		Projection Based on Age Strata in 1971 Census	
		Number	Growth Rate	Number	Growth Rate
Census	1971	21,470,628	-	-	-
Reg.	1970	21,470,628	-	-	-
	1971	21,930,566	2.1422	22,022,140	-
	1972	22,317,511	1.7644	22,466,044	2.0157
	1973	22,574,509	1.1516	22,904,727	1.9526
	1974	22,878,647	1.3473	23,340,135	1.9010
	1975	23,183,592	1.3329 1/	23,775,507	1.8653
Nov.	1976	23,424,142 2/	1.0376 1/	-	-
Dec.	1976	23,765,103 2/	2.5083 2/	24,213,658	1.8429
Average Annual Growth Rate 1971/76			1.6197		1.9155

Notes: 1/ Growth Rate from December 1975 to May 1976.
2/ Estimate based on the monthly growth rate from December 1975 until May 1976.

Sources: 1. Population Registration 1971, '72, '73, '74, and '75.
2. May 1976 Registration from the Provincial Bureau of Statistics.
3. BPS, Perkiraan Penduduk Akhir Tahun 1971-1981, Menurut Daerah 1971-1981, Jakarta, 1974.

02.004 For estimating the population growth rate for the first half of the 1970s, there are only two sources at hand: one is the Population Registration undertaken every year, and the other is the estimation of the population based on the population structure obtained from the 1971 Census. Both seem to include considerable bias, however.

02.005 In the first place, the Population Registration tends to be an underestimate of the real population, due to the people's negligence of registration.[1/] If, however, the population registered and the population not-registered have the same age structure and the same growth rate, the growth rate for the registered population would give a correct estimate of the growth rate for the whole population. But this does not seem to be the case with the Population Registration of Indonesia, since a considerable number of parents who are registered fail to register births of children. The relatively small share of children below age 10 in registrations as compared with that in the Census shows this tendency. In the year of general election efforts have been made to obtain fuller registration by local officials, and the efforts met with fairly well results, at least for the population eligible for the election. The latest general election was held in 1971, and the result of the Registration appears to have covered a greater portion of the population, resulting in the figure of 21,930 thousands as presented in Table 2.2. This result was almost the same as the figure obtained from the Census which was undertaken in the same year, the Registration figure being greater than Census figure by a very small margin of 0.30 percent. But the Registration appears to have been decreasing in its coverage since 1971, resulting in the sheer decline of growth rate down to 1.3329 percent for 1974/75. In anticipation of the next general election in March 1977, the coverage of the Registration resumed expanding again in 1976. Registration in March 1976 marked a 1.04 percent increase from December 1975, which is equivalent to 2.51 percent increase for a full year. If we assume this growth rate for the year of 1976, the registered population would have been 23,765 thousands, although the Registration in December has not been tabulated by the Provincial Statistics Bureau to date, the figures that the Study team collected from several kabupatens showed almost similar or even a little higher growth rates than assumed, giving support for the estimate for December 1976. By taking up two peaks of the Registration, i.e., 1971 and 1976, we calculated an estimated annual growth rate for 1971 to 1976: the result is 1.6197 percent per year for the period.

02.006 On the other hand, the projection by the Biro Pusat Statistik based onthe age structure and estimated fertility rate for Central Java tabulated from the 1971 Census possibly presents the growth rate higher than reality. The major weakness of the projection is that it assumes

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1/ On the other hand, there is also a slight possibility that the Registration gives a over estimate, which would be in the case where a considerable part of the population stay out of the village where they are registered but keep being registered. But this portion does not appear to be large enough to offset the effect of negligence of registration.

a constant fertility rate over years, and gives little consideration to the mobility of population within the Province. In Central Java, there is ground to believe that the birth rate is decreasing at least in several kabupatens. And above all the outflow of the population is considerable; it is estimated that the outflow of the population lowered the growth rate by about 0.4 percent per year during the 1960s.[2/] Hence, the Study team takes the annual growth rate of 1.9155, the average for 1971 to 1976, from the projection as a probable over estimate of the growth rate.

02.007 In conclusion, it is confirmed that there are good reasons to estimate the population growth per year for the duration of 1971 to 1976 be between 1.6 percent and 1.9 percent.

02.008 It should be noted that the remarkable growth of Cilacap is of an ambiguous nature since the coverage of registration seems to be fluctuating considerably as is presented in Table 2.3. It is possible, however, that the rehabilitation of the irrigation system along the boundary with West Java has raised the productivity of land in the surrounding area, thus attracting new migrants.

2.1.2 Geographical Distribution of the Population

(a) General

02.009 Table 2.3 presents the population of each kabupaten and kotamadya in December of 1975, together with population densities and population growth rates. As for the absolute size of population, the largest kabupaten is Cilacap with 1,237 thousand persons, followed by Banyumas with 1,112 thousands and Klaten with 1,040 thousands; on the other extreme the smallest kabupaten is Rembang, inhabited only by 386 thousands of persons. Semarang is by far the largest kotamadya in the Province with 735 thousands, the next is Surakarta, populated by 455 thousands.

(b) Distribution of Population Density

02.010 It is often alluded that the geographical distribution of population in Java closely follows the distribution of the types of soil; i.e., the fertile alluvial soils provides eximious advantage for rice-growing which enables a dense inhabitation. A close examination of the population density contour of Central Java will easily show that the case of the Province is not the exception to this statement.

02.011 Although a comparison of population density at kabupaten level is not sufficient for scrutinizing the problem of distribution due to the enormous differences within a kabupaten, a classification of kabupatens by densities will give a rough picture of the situation.

2/ The consequence of the outflow of the population shall be discussed in the latter part of this report.

Table 2.3 Geographical Distribution of the Population and Growth Rate

	Population by December 1975 Registration	Population Density (Persons/ km^2)	Rank[1]	Growth Rate of Registered Population (Percentage) 70/71	71/72	72/73	73/74	74/75	75/76[2]	Growth Rate 1971-76 Average Annual (Percentage)	Rank[7]
1. KDY Mageland	108,602	5,993	a	0.81	0.60	2.45	6.00	7.72	0.49	0.26[5]	a
2. KDY Surakarta	455,032	10,223	a	1.99	1.48	0.04	1.14	3.12	-[3]	1.02[5]	a
3. KDY Salatiga	71,365	4,296	a	2.35	4.01	2.68	2.17	4.10	4.92	1.92	c
4. KDY Semarang	735,179	7,396	a	7.12	1.61	3.50	2.96	3.18	39.79	3.25	c
5. KDY Pekalongan	113,126	7,389	a	3.10	0.32	1.44	7.20	4.93	4.84	1.45	b
6. KDY Tegal	109,382	8,633	a	1.03	0.09	0.96	0.41	1.16	11.94	2.72	a
7. KB Cilacap	1,237,384	577	c	0.34	6.06	0.90	0.57	1.07	7.70	3.21	a
8. KB Banyumas	1,112,334	989	a	2.78	2.46	1.07	1.12	1.67	2.61	1.78	b
9. KB Purbalingga	617,926	746	b	1.59	1.16	1.31	1.15	1.35	3.47	1.68	b
10. KB Banjarnegara	625,564	497	d	2.39	1.52	1.14	1.01	1.56	3.77	1.79	b
11. KB Kebumen	970,924	772	b	1.83	0.76	0.82	0.78	1.02	3.50	1.38	c
12. KB Purworejo	674,931	650	c	3.22	0.83	0.85	0.16	0.90	0.20	0.59	d
13. KB Wonosobo	547,950	586	c	1.53	1.98	1.85	1.33	1.97	2.65	1.95	b
14. KB Magelang	857,407	810	b	2.22	1.69	0.95	0.76	1.04	5.74	2.02	a
15. KB Boyolali	746,413	748	b	1.54	1.39	0.61	1.35	1.34	-[4]	1.36[6]	c
16. KB Klaten	1,040,919	1,591	a	1.08	1.86	1.14	1.53	0.92	-[4]	1.58[6]	b
17. KB Sukoharjo	534,492	1,165	a	1.51	1.82	1.64	1.39	1.96	5.18	2.41	a
18. KB Wonogiri	939,643	508	c	1.55	2.05	0.93	0.93	1.06	1.58	1.31	c
19. KB Karanganyar	540,638	711	b	1.45	2.04	1.64	1.46	1.84	2.76	1.94	b
20. KB Sragen	691,731	744	b	2.90	1.85	1.40	1.32	1.59	4.01	2.03	a
21. KB Grobogan	943,572	481	d	1.92	1.77	1.76	1.63	2.00	1.73	1.78	b
22. KB Blora	644,238	335	d	2.28	1.00	0.22	2.18	0.74	5.57	1.84	b
23. KB Rembang	386,532	399	d	2.59	2.45	1.40	1.40	0.26	9.29	2.91	b
24. KB Pati	884,345	617	c	1.68	1.14	1.00	0.97	1.51	5.69	2.05	a
25. KB Kudus	472,051	1,119	a	1.84	2.09	0.94	1.02	2.12	1.94	1.62	b
26. KB Jepara	614,562	646	c	2.32	1.44	0.83	0.83	0.81	8.49	2.44	a
27. KB Demak	634,768	583	c	3.32	0.10	1.17	1.50	3.22	-[4]	1.67[6]	b
28. KB Semarang	704,565	674	c	4.71	1.89	0.63	0.52	1.30	-[4]	1.26[6]	c
29. KB Temanggung	498,126	642	c	7.77	2.22	1.46	1.25	1.70	3.56	2.04	a
30. KB Kendal	686,546	620	c	2.22	1.77	0.60	1.74	0.83	-[4]	1.43[6]	c
31. KB Batang	492,966	591	c	3.55	1.95	2.15	1.95	2.20	0.98	1.17	b
32. KB Pekalongan	587,851	701	b	0.06	1.25	1.16	1.31	1.72	4.21	2.00	b
33. KB Pemalang	842,422	880	b	1.25	0.80	0.37	1.42	1.38	3.61	1.51	b
34. KB Tegal	943,512	1,095	a	0.85	1.65	1.21	2.30	2.58	4.43	2.43	a
35. KB Brebes	1,117,094	653	c	1.77	1.75	1.46	1.72	1.15	4.49	2.11	a
Total	23,183,592	716		2.14	1.76	1.15	1.35	1.33	2.51	1.62	

Notes: 1/ Classification by the following brackets; a) 900 persons per square kilometer or more; b) from 700 to 899 persons per square kilometer; c) from 500 to 699 persons per square kilometer; and d) 499 persons per square kilometer or less.

2/ Based on the estimated registration of December 1976 except for Kotamadya Pekalongan, kabupatens Kebumen, Wonosobo, Grobogan, Semarang, Temanggung, and Tegal where the figure is available to date. Estimation used the monthly growth rate from December 1975 to 1976. The actual results of the registration in the end of 1976 obtained from several kotamadyas and kabupatens indicates that this estimate is not much devient from the actual figure if it is slightly under stating the trend.

3/ Not calculated because of the innormality in data.

4/ Not calculated because of the change of boundary of Kotamadya Semarang and the neighboring kabupatens in 1976.

5/ Average for 1971 to 1974 adjusted for the increase of coverage of registration in 1976.

6/ Average for 1971 to 1975 adjusted for the increase of coverage of registration in 1976.

7/ Classification by the following demarkation; a) annual growth rate of more than 2.0 percent; b) from 1.50 to 1.99 percent; c) from 1.00 to 1.49 percent; and d) less or equal to 0.99 percent.

Source: Biro Daerah Statistik, Hasil Registrasi 1970, 1971, 1972, 1973, 1974, 1975.

Figure 2.1.a gives the result of the classification. The most densely populated areas in the Province as classified, 900 persons per square kilometer (sq. km) or more, are located at three locii: (1) the basin of upper Solo River including Klaten which marks the highest density, and Sukoharjo; (2) Kudus in the South of Mt. Muria which is located in the northeast of the Province; and (3) Tegal and Banyumas in the west of the Province. On the other hand, the most sparsely populated areas include the mountainous part as Wonogiri and Banjarnegara, and the plain in the north border with East Java, namely Rembang, Blora and Purwodadi. Every kotamadya exceeds 4 thousand persons per sq. km, and the highest being Surakarta for which the density is more than 10 thousands. As easily seen in the Figure 2.1.a, Surakarta and Tegal are located in densely populated areas; but Semarang is not surrounded by kabupatens with dense inhabitation.

02.012 A closer examination of the distribution of population will be enabled by a finer density map based on kecamatan level data. This is presented as Figure 2.1.b.

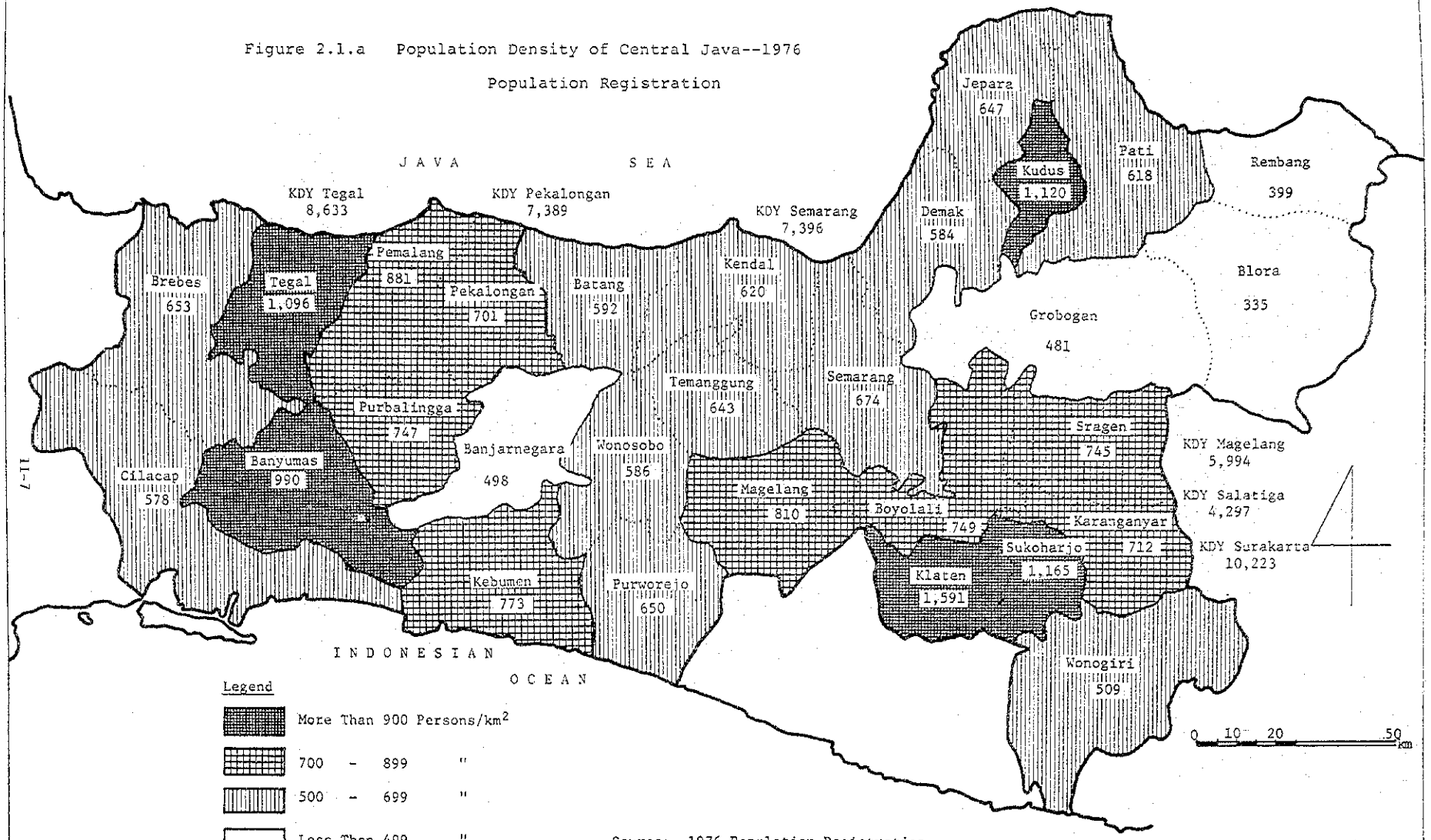
(c) Distribution of Population Growth

02.013 Intra-Provincial differential of population growth is presented in the right half of the Table 2.3. Again, by classifying the average growth rates for 1971 to 1976 we shall obtain a rough sketch in this aspect; (see Figure 2.2). It should be noted here that the figures used are subject to considerable errors due to the nature of data used for estimation, and that the figures are in general inclined to understate the magnitude of growth.

02.014 The high-growth areas appear to lie in four locii in the Province: The first is the upper Solo basin, including Sragen, Sukoharjo, and to the lesser extent Karanganyar. Especially the robust growth of Sukoharjo, with a growth rate of 2.41 percent, is noteworthy; one reason for this growth is the expansion of the suburban area of Kotamadya Surakarta due to the limited space of the kotamadya to accommodate the activity. The second is the northeast of the Province comprising Jepara, Pati, and Rembang where the growth rate ranges from 2 to 3 percent. The third is the upland area in the center of the Province, namely Temanggung, Magelang, and Wonosobo, for which the growth rates are around 2 percent. The fourth is the boundary area with the West Java Province, including Tegal, Brebes, and Cilacap. The outstanding growth rates for Cilacap and Tegal, 3.21 and 2.43 percents respectively, are remarkable. On the other hand the areas that are lagging behind others in terms of population growth are the south coast area of Kebumen and Purworejo; the mountainous area of Wonogiri; and the corridor stretching to the west and south of Semarang, encompassing Batang, Kendal, Kabupaten Semarang, and Boyolali. Both kotamadyas Semarang and Tegal are growing extremely rapidly while Surakarta shows little increase probably due to the state of saturation of the given space. The sluggish growth of the neighboring areas of Kotamadya Semarang deserves attention. This can partly be attributed to the policy of the Province to expand the boundary of the municipality

Figure 2.1.a Population Density of Central Java--1976

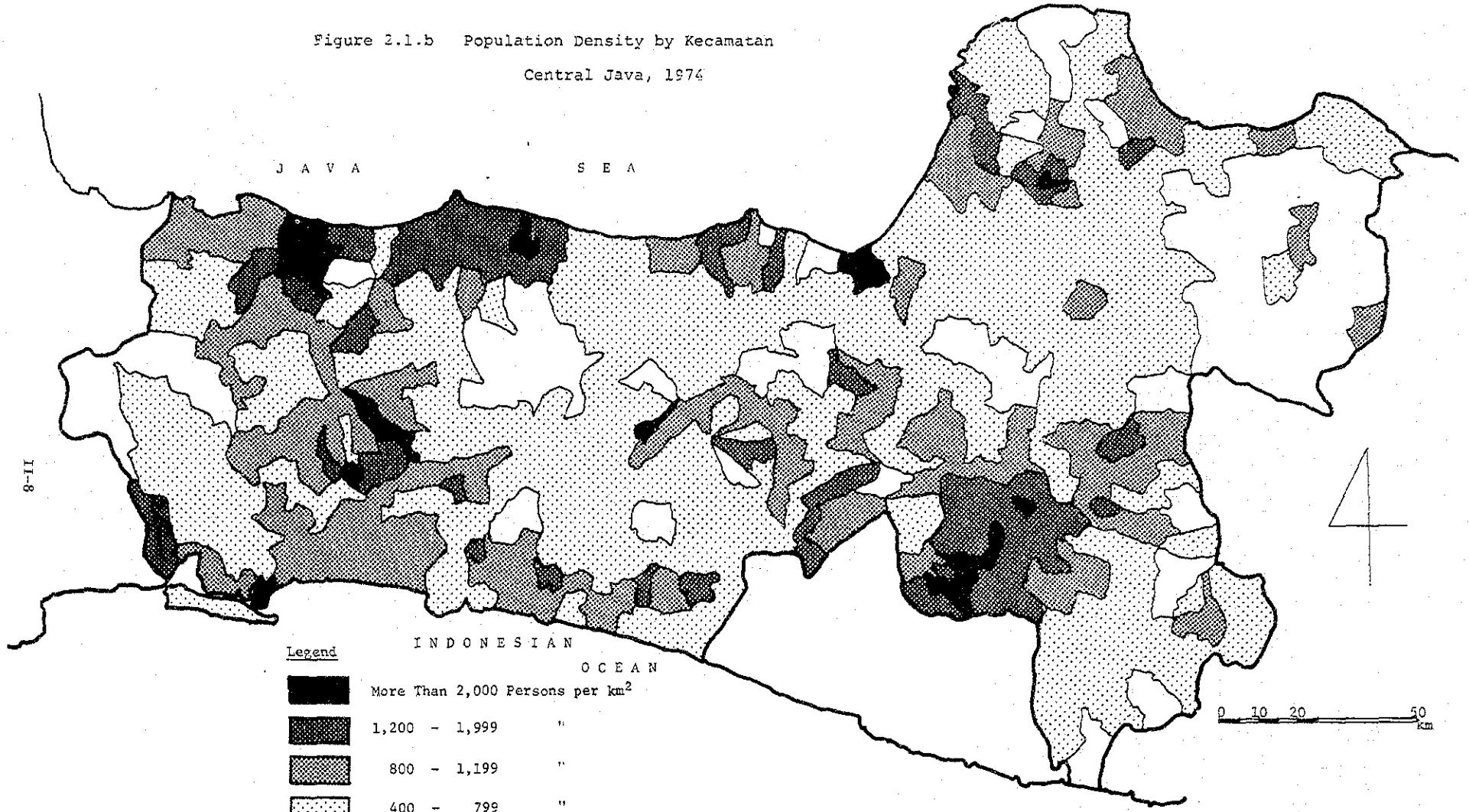
Population Registration



Source: 1976 Population Registration.

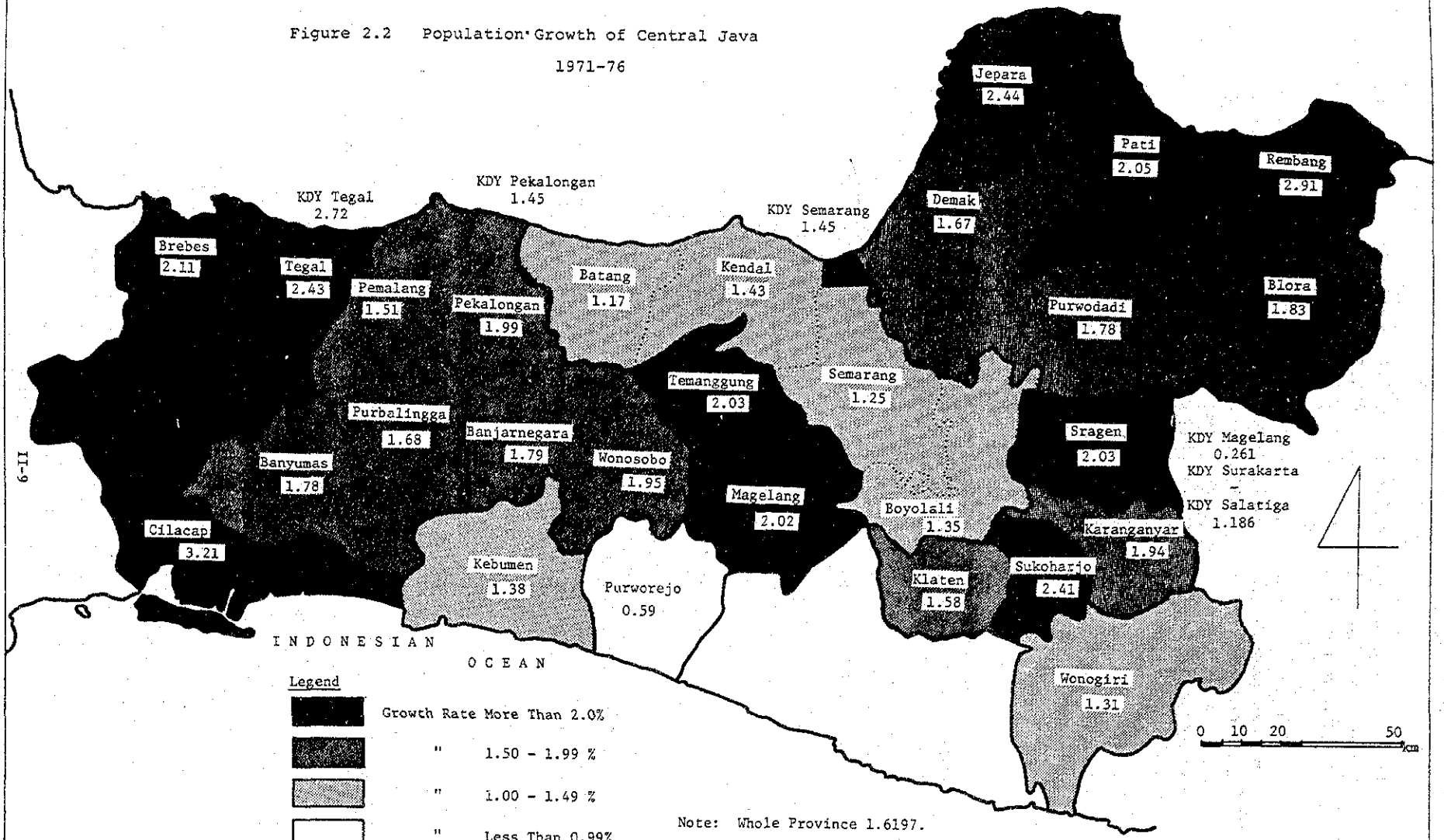
Figure 2.1.b Population Density by Kecamatan

Central Java, 1974



Source: Kantor Daerah Statistik, Population Registration 1974.

Figure 2.2 Population Growth of Central Java 1971-76



Note: Whole Province 1.6197.

Source: Table 2.3.

that in consequence confined the effect of the growth within the demarcation and hindered the diffusion beyond it through proliferation of suburban cities.

02.015 In conclusion, the upper Solo basin and Tegal are already densely populated and still appear to be growing; Cilacap, and the corridor of Rembang, Pati, and Jepara are relatively under-populated, but steadily growing; the upland area of Magelang, Temanggung and Wonosobo is following this pattern to a lesser extent; the growth of Semarang is not being diffused to the neighboring area.

2.1.3 Age Structure of the Population

02.016 (a) General

02.016 Table 2.4 shows the age structure of the population for the Province, percent distribution of the population by age, and sex ratio which is defined as the number of males for each 1,000 females. The shape of the population pyramid is drawn in Figure 2.3. for each sex in the rural and urban areas. It should be noticed that the scale for rural population is 10 times larger than that for the urban population since the urban population is about one-tenth of the rural population.

02.017 A glance at Figure 2.3 will show that the population is fairly stable over generations from the bracket of age 20 to 24 to that of age 35 to 39. Beyond this plateau the population gradually decreases as the generation advances, while the generation younger than age 29 indicates a dramatic increase towards the lowest age bracket. It should be noted here that the Census data seriously under-reports the number of children of 0 to 4 years old; the real population for the age bracket should be much higher than the figures presented. One of the peculiar feature of the population structure is that the whole population is significantly skewed toward the younger generation, rendering the share of the population of age 14 or less as high as 46, 42, and 51 percent for rural male, rural female, urban male, and urban female respectively. The formidable problems that this brings to the Province's economy are to be touched upon later; i.e., the resources to be required by this pool of population, resources for education in particular, and the crying need for creation of job opportunities.

02.018 The examination of the population structure will tell us not only the problems that the economy is facing, but also how the population is moving geographically, since the factors lying behind the difference of age structure by sex and region are social mobility as well as vital factors like fertility or mortality. For this purpose we extract two indicators from the population pyramid, i.e., percent distribution of the population by age bracket and sex ratio for each of the age brackets.

(b) Geographical Difference of Age Structure

02.019 Percentage distribution of each of urban and rural population in Central Java, together with those for the rural Indonesia, D.K.I. Jakarta

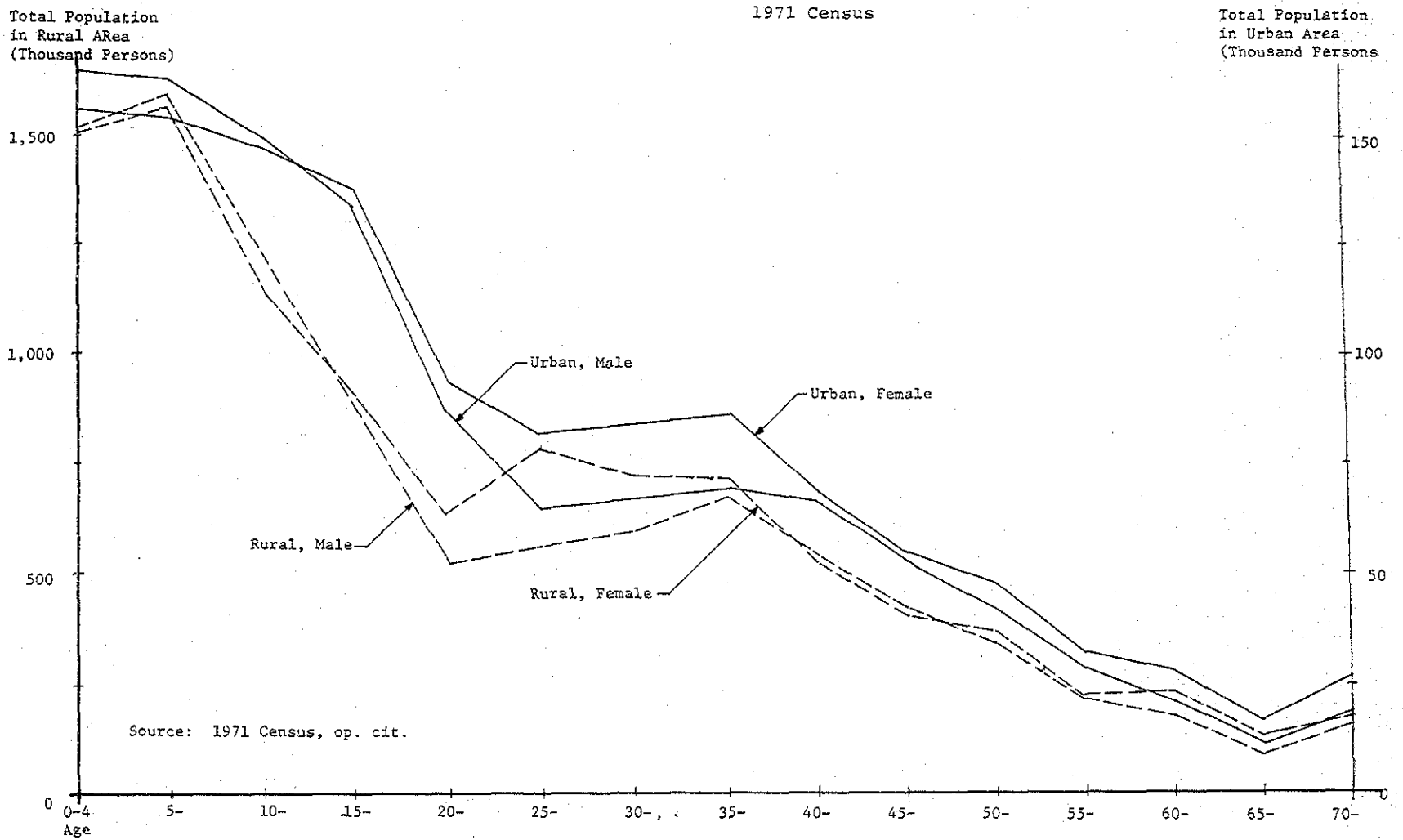
Table 2.4 Age Structure of Population, Central Java and Indonesia, 1971

	Population				Percent Distribution by Age					Sex Ratio 2/				
	Central Java				Central Java		Indonesia	Jakarta	Indonesia	Central Java		Indonesia	Jakarta	Indonesia
	Rural		Urban		Rural	Urban	Rural	Urban 1/	Rural + Urban	Rural	Urban	Rural	Urban	Rural + Urban
	Male	Female	Male	Female										
0- 4	1,513,186	1,511,706	165,474	156,795	15.5	13.7	16.2	17.0	16.1	1,001	1,055	1,008	1,025	1,012
5- 9	1,596,281	1,576,005	160,582	154,416	16.3	13.4	16.2	14.3	15.9	1,013	1,040	1,031	1,040	1,031
10-14	1,231,112	1,147,681	149,694	147,800	12.2	12.7	11.9	11.8	12.0	1,073	1,013	1,091	1,011	1,077
15-19	894,060	895,630	133,132	137,836	9.2	11.6	9.1	11.2	9.6	998	966	971	919	974
20-24	524,305	633,416	86,487	93,540	5.9	7.7	6.4	9.2	6.8	828	925	776	945	813
25-29	561,851	775,024	64,693	81,197	6.8	6.3	7.5	9.0	7.5	725	789	777	1,027	804
30-34	592,289	725,878	66,618	83,183	6.8	6.4	6.7	7.4	6.7	816	801	855	1,056	876
35-39	665,375	709,173	69,207	85,521	7.0	6.6	6.9	6.2	6.7	938	809	987	1,074	979
40-44	541,072	539,105	65,471	68,716	5.5	5.7	5.2	4.0	5.2	1,004	953	999	1,228	1,009
45-49	428,799	406,462	52,334	53,784	4.3	4.5	4.0	3.0	3.9	1,055	973	1,095	1,209	1,092
50-54	341,406	355,880	41,643	46,963	3.6	3.8	3.3	2.2	3.3	959	887	965	1,119	970
55-59	213,838	213,321	28,629	30,455	2.2	2.5	1.9	1.2	1.9	1,002	940	1,022	1,165	1,024
60-64	180,723	232,770	20,692	20,778	2.1	2.1	2.1	1.0	2.0	776	745	866	831	862
65-69	93,267	106,321	12,030	15,870	1.0	1.2	1.0	0.6	1.0	877	758	939	859	925
70-74	90,808	96,563	10,056	13,938	1.0	1.0	0.9	0.4	0.9	940	721	986	818	966
75-	64,011	62,755	7,769	12,080	0.6	0.8	0.7	0.3	0.7	1,020	643	991	653	936
Total	9,532,383	9,987,690	1,134,518	1,210,672	100.0	100.0	100.0	100.0	100.0	954	939	967	1,021	882
Population 10 Years Old or More	6,422,916	6,899,979	808,462	899,461										
As Percent	67.4	69.1	71.3	74.3										
Population 14 Years Old or Less	4,340,579	4,235,392	475,750	459,011										
As Percent	45.5	43.4	41.9	51.0										

Notes: 1/ Adjusted for "not stated".
2/ Number of males for each 1,000 females.

Source: 1971 Census, Seri D and Seri E No. 17.

Figure 2.3 Population by Age and Sex, Central Java, 1971 Census



Source: 1971 Census, op. cit.

and the whole nation, are presented in Figure 2.4. In the figure, two things are observed about percentage converge at two age brackets: one is the 10 to 14 years old bracket where every population have percentage around 12 percent, and another is age 35 to 39 where percentage fall between 6.0 to 7.0 percent. The major variations that attract our attention take place between the two age brackets. There are three salient points here: First, the rural population of Central Java has a pattern of distribution very similar to that of the whole rural area of Indonesia, and the percentage is lower than the national average for the brackets of age 15 to 20, age 20 to 24, age 25 to 30, and age 30 to 35. Second, urban Central Java shows a higher percentage than the national average for the brackets age 10 to 14, age 15 to 19, and age 20 to 24, but it has an average lower than that for the nation for the brackets age 25 to 29, and age 31 to 35. Third, Jakarta maintains considerably higher figures than the national average for the whole interval between brackets age 10 to 14 and age 15 to 19.

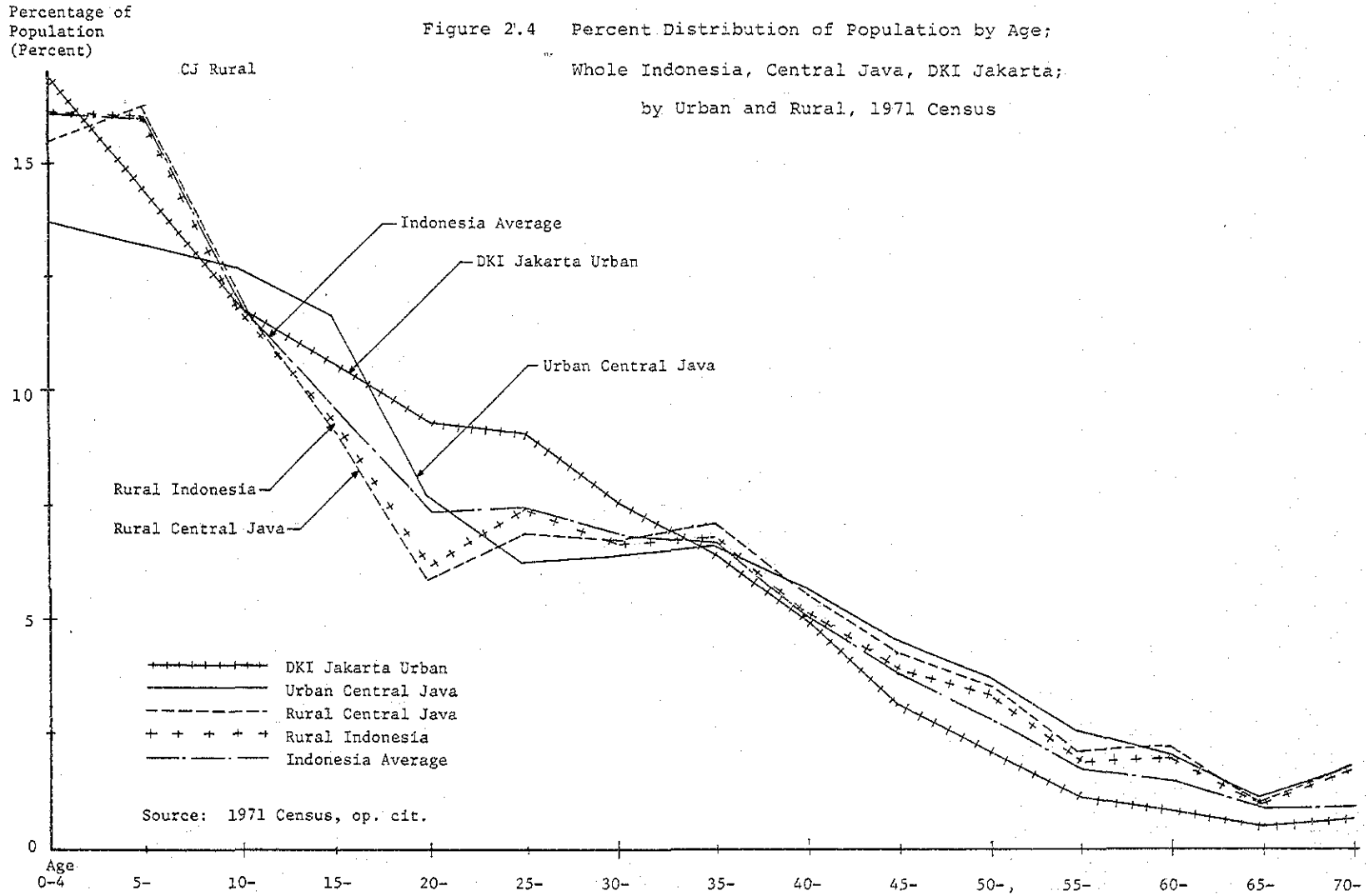
02.020 Undoubtedly the rural area of Central Java, as in the case of the rural area of the other parts of Indonesia, have been losing a part of its population to either or both of the urban parts of Central Java and large cities outside of the Province, namely D.K.I. Jakarta and Surabaya. On the other hand, the different shapes of distribution in the Figure 2.4 for the urban Central Java and D.K.I. Jakarta need further explanations. There are three possible reasons for the difference: the first is simply that Jakarta is attracting people evenly for the interval of 10 to 30 years old, whereas urban Central Java tends to attract only those in the younger brackets of age 15 to 19 and age 20 to 24; the second is that Jakarta began attracting people earlier than urban Central Java did; and the third is that the population that once entered the urban part of Central Java at the ages of 10 to 24 again moved towards the capital cities several years later. So far we have no data to test the validity of these hypotheses and there seems to be no strong reason to deny any of them.

(c) Sex Ratio

02.021 The sex ratio for each of the population is shown, by age strata, in Figure 2.5. Some of the findings in the figure follow. First, again rural Central Java shows a pattern almost identical to that of the rural Indonesia, with the strikingly low male component for the age brackets of age 20 to 24 and age 25 to 29 where there are less than 800 males for every 1,000 females, and the drop of sex ratio beyond the bracket of age 55 to 59. Second, urban Central Java follows a similar pattern; but the ratio is to significantly higher than those for rural Central Java and the national average for age 20 to 24 bracket, and it becomes reversed for the brackets between age 30 to 34 and age 55 to 59. And third, D.K.I. Jakarta in contrast maintains a relatively high proportion of male population for the brackets of age 20 to 24 and age 55 to 59.

02.022 Since the sex ratio should not significantly differ from one part of a nation to another, the observation of varying patterns of sex

Figure 2.4 Percent Distribution of Population by Age; Whole Indonesia, Central Java, DKI Jakarta; by Urban and Rural, 1971 Census



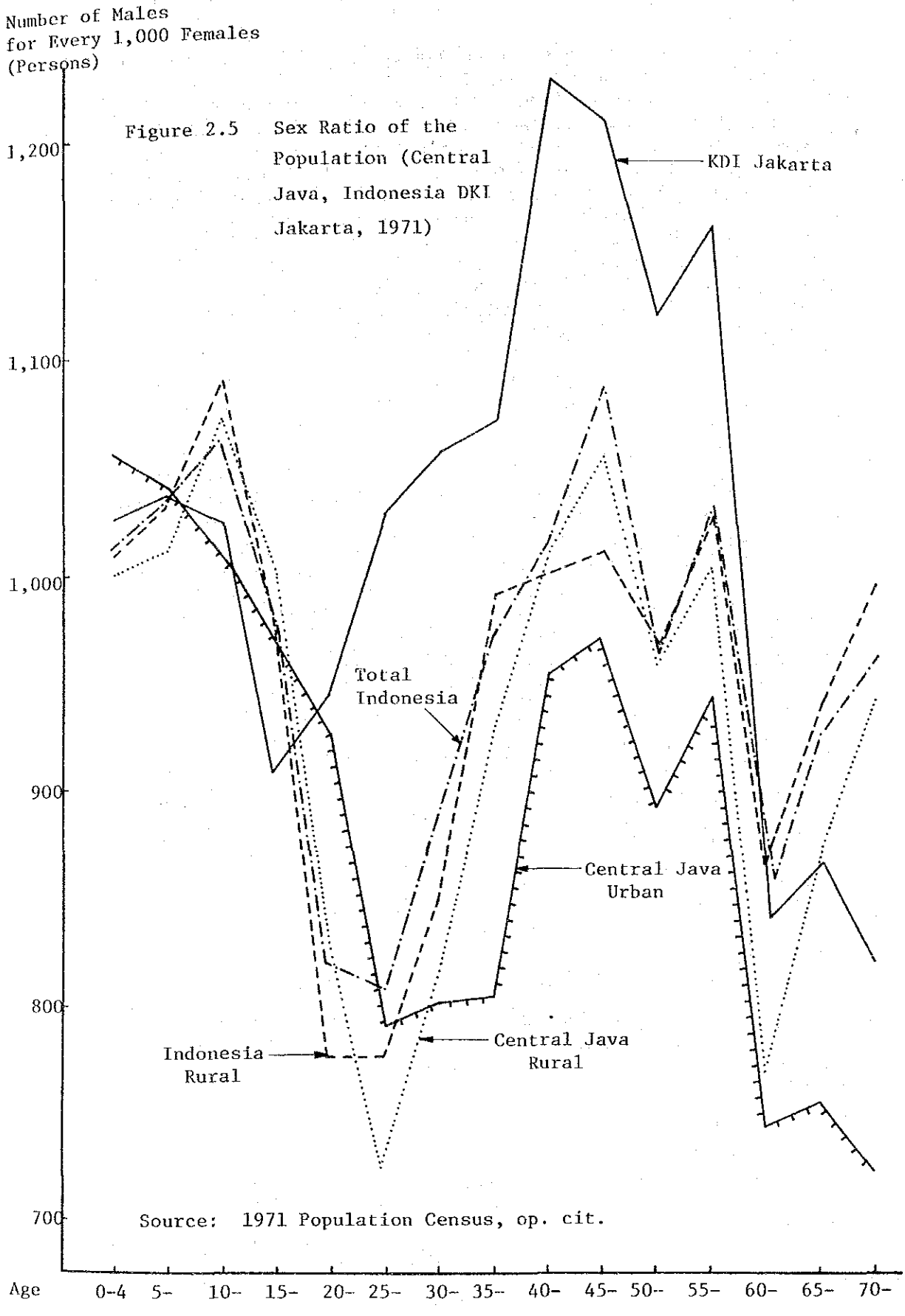


Figure 2.5 Sex Ratio of the Population (Central Java, Indonesia DKI Jakarta, 1971)

Source: 1971 Population Census, op. cit.

ratio seems to be verifying our supposition of massive population outflow from the rural area of Central Java to the urban area. Again the problem here is the function of urban Central Java in this aspect in contrast to the large cities such as Jakarta. If we assume that males are more mobile than female, and this difference is not changing by destinations, a lower sex ratio (see Figure 2.5) than the national average can be considered as demonstrating the existence of outflow of population, and vice versa. From this assumption an inference emerges that urban Central Java is attracting people that fall in the brackets between age 15 to 19 and age 25 to 29, but in fact it sends out poeple in brackets beyond age 30 to 35 to the large cities as Jakarta. The third hypothesis in the previous discussion seems to be more in keeping with this observation.

(d) Age Structure and Dynamics of the Population

02.023 The examination of age structure clarified two things. In the first place, the population in the Province contains an enormous young generation: If the underrating of the youngest bracket is adjusted, the population under 14 years old comprises about the half of the population. Its economic and social consequence is, and will continue to be, one of the major problems in the Province, and deserves due attention. In the second place, while the rural area of Central Java seems to be continuously pushing out a part of its population, the urban area of the Province appears to be not only attracting people especially in the younger generation but also sending out the population beyond age 30.

2.2 Dynamics of the Population and Its Future

2.2.1 Fertility

(a) General

02.024 The dynamics of a population--its growth and decline--are determined by three factors: birth rate, death rate, and social mobility. For the decade of 1960s a simple arithmetic relationship among these factors is:

(Unit: Percent)

	Crude Birth Rate		Crude Death Rate		Social Mobility		Population Growth
Central Java	4.2	-	2.1	-	0.4	=	1.7

02.025 Due to limited data which are available and reliable enough for use, the analyses of the factors are of tentative characters. A detailed analysis of fertility rate, mortality rate, and the mobility of the population is reported in Appendix A, "Dynamics of the Population." The following discussions summarize the analysis, and the readers who are interested in demographic factors are reffered to the Appendix.

(b) Trend of Fertility Rate

02.026 The levels of fertility in Central Java in three study periods in the 1960s are contrasted with those for the other areas in Java Island, and for the entire nation in Table 2.5. For the decade of the 1960s in the Province, every 1,000 urban women bore 4,465 children and every 1,000 rural women bore 5,485 children. The figure for the whole Province in the same decade, 5,380, is lower than its counterparts for West Java or those for the entire nation, but considerably higher than that for East Java, by 700. Within the Province, the urban-rural difference is enormous, i.e., the rural fertility rate is 23 percent higher than that for urban. Also from the table, it is quite clear that in Indonesia, and in the whole island of Java, fertility rates reached their peaks in the middle of the 1960s.

Table 2.5 Total Fertility Rate[1/] in Central Java

	Central Java			East Java	West Java	Indonesia
	Urban	Rural	Urban & Rural			
1961-63	4,405	5,290	5,320	4,550	5,465	5,385
1964-66	4,560	5,765	5,590	4,835	6,090	5,760
1967-70	4,420	5,430	5,270	4,650	5,865	5,520
1961-70 Average	4,465	5,485	5,380	4,680	5,810	5,550

Note: 1/ Number of children born per 1,000 women during their lifetime.

Source: BPS, Estimate of Fertility and Mortality in Indonesia, Jakarta, 1976.

(c) Age Specific Fertility Rates

02.027 A close examination of age-specific fertility rates reveals the following: (1) The sharp contrast in fertility between the urban

and rural areas comes from the high possibility of pregnancy in teens and the relatively prolonged duration of possible fertile age in the rural area on the one hand, and from the concentration of pregnancy during the age 20s and early 30s in the urban area on the other. (2) The urban area seems to be intensifying this tendency while the rural area is gradually approaching this pattern. These latent factors were behind the rise and decline of fertility rate of the Province in the 1960s.

(d) Fertility Rates, Education and Income

02.028 How the fertility rates are affected by social and economic factors in the region is another problem. Table 2.6 shows how fertility rates vary by levels of educational attainment. It is remarkable that fertility rate increases--in both urban and rural areas--as educational attainment rises, and that except for the population with completely no education fertility rates are greater for the urban area, not for the rural area. This finding is somewhat to be discounted since the more educated women are more likely to report correctly, and less-educated women would tend to report the number incorrectly probably with a downward bias given to the rate of mortality infancy.

02.029 Even so, however, the figure that the women in the urban area who have had primary education bear 1.5 times more than those with no education and 1.4 times more in the rural area is quite striking.

02.030 Since those with better education are supposed to belong to the wealthy class, the inference that comes from this finding is that the more rich the economic level of a woman's family is the more children she bears and the often-advocated enlightning effect of education, i.e., its for diffusion of conception of small size family is in fact very limited in face of this causality in the setting of Central Java.

Table 2.6 Marital Fertility Rates[1/] by Education and by Rural & Urban Residence, Central Java, 1965-1970

	No Education	Not Completed Primary Sch.	Primary and Above	Average
Urban	201	276	306	244
Rural	213	267	289	238

Note: 1/ Total births per 1,000 married women 15-44 years old.

Source: Universitas Indonesia, Fakultas Ekonomi, Lembaga Demografi, Preliminary Report Indonesia Fertility Mortality Survey, 1973 Central Java, Jakarta, 1974.

(e) Factors Affecting Fertility--Summary

02.031 From the discussion above, the following three points are to be noted: first, in the whole province, fertility rate reached the supposed maximum point in the midst of 1960s and then began to decline gradually as was the case for the entire nation, although its trend in the 1970s is not known. Second, this decline took place while there was a concentration of fertility in the mothers aged 20s and early 30s. Third, on the other hand, in Central Java economic well-being appears to be connected with a high fertility rate, and general education has minimal effect, if any, on reducing fertility. In this respect it is not too hazardous to argue that the recent decline of fertility is partly attributed to the pressing economic pressure on the lowest income group.

(f) Geographic Difference of Fertility Rate

02.032 Geographical distribution of fertility rate is to be seen in Figure A.1 in Appendix A.

02.033 There are three areas in the Province having fertility rates that are more than 10 percent points higher than the Provincial average, namely Temanggung, Kebumen, and Brebes. It is noteworthy that, out of the three, Temanggung and Brebes reached this high level of fertility after the steady increase in 1960s. Connecting these with other high level kabupatens Kendal, Wonosobo, Purworejo, Purwokerto, Cilacap, and Tegal, one could draw a half circle in the west of the Province. On the other hand, there is another corridor of high fertility rate in the northeast of the Province, comprising kabupatens Jepara, Demak, Purwodadi, and Grobogan. These kabupatens maintained relatively high fertility rates throughout the 1960s.

2.2.2 Mortality

(a) General

02.034 Little is known about the mortality-rate for Central Java, or, for that matter for the entire nation. Some estimates have been made, however, of infant mortality rates using the Census and sample survey data.

02.035 The rate of mortality of children-ever-born until the age of exactly 1, based on the 1971 Census are presented in Table 2.7. In the whole province of Central Java about 16 percent of newborn males and 13 percent of newborn females die before they attain the age of one year old. Figures for both are slightly higher than the national average, and also are between the averages of East Java and West Java. In the rural area the mortality rates are higher than those in the urban area by 38 percent age points for males and 39 percent age points for females respectively. Life expectancy at birth (the age of 0) implied by the

Table 2.7 Estimates of Infant Mortality Rates and Implied Expectation of Life at Birth, from 1971 Census

	Infant Mortality Rate[1] Until 1 Year Old (1qo)		Life Expectancy[2] (eqo)	
	Male (No Death=1)	Female	Male (Years)	Female
Central Java	0.1586	0.1345	44.04	47.00
Urban	0.1219	0.1030	50.01	53.00
Rural	0.1683	0.1432	42.60	45.50
East Java	0.1445	0.1221	46.27	49.25
West Java	0.1717	0.1461	42.12	45.00
Indonesia	0.1522	0.1281	45.00	48.00
Urban	0.1232	0.1034	49.79	52.75
Rural	0.1618	0.1374	43.56	46.50

Notes: 1/ The rate of mortality of children-ever-born until the exact age of 1. Based on 1971 Census.

2/ Life expectancy at birth the age of zero.

Source: BPS 1976 op. cit.

infant mortality rates is in the right side of the table. The babies born in 1971 are expected to live an average of 44.04 years for males and 47.00 years for females, and the figures are slightly lower than the national average and about at the midpoint between the averages for East Java and West Java.

(b) Trend in Mortality Rate

02.036 There were very sharp decline in the period between 1945 to 1949 and 1950 to 1954, the rates of decrease are 33 percent for urban Central Java and 28 percent for rural Central Java, for the interval of only 5 years. Later than this period the rate of decline appears to be becoming less and less. See Table A.9 in Appendix A.

2.2.3 Mobility of the Population From and to the Province

(a) General

02.037 It is widely recognized that there has been a massive movement of population from the Central Java to the other areas in Indonesia. For the decade of 1961 to 1971, it is roughly estimated that the natural growth rate (birth rates minus death rate, indicating the growth rate of the population when no social mobility exists) was 2.1 percent, while the real growth rate between the two censuses in 1961 and 1971 was 1.7 percent. The difference of the two figures, 0.4, is considered to account for the net movement of the population towards the outside. Hence, in terms of the absolute amount, it implies of that on the average around 80 thousand people per year left the Province. However, so far no work has been undertaken scrutinizing the absolute number of migrants from Central Java, its change over time, and characteristics of the migrants and their destination. The only survey giving information relevant to this point is the 1971 Census which included several questions concerning people's previous residence and birthplace. The resulting tabulations are published for each of 26 provinces and special regions as E series of the 1971 Census publications. The Study team elaborated on these data using up the population that fall in the categories of born or previously lived in Central Java from each of the Province's table. Kalimantan Tengah, Maluku, Irian Jaya and Nusatenggara Timur are excluded from the analysis due to data problems. This possibly will not cause serious biases in resulting figures since out migration into these provinces are considered to be very small relative to others.

02.038 Part of the result of the tabulation is presented in the left half of the Table 2.8, showing how much of the populaiton born in Central Java now lives in all of the other provinces. There were about 1,782 people whose birthplace is in Central Java and presently living in elsewhere after migration in 1971. Out of these, about half (48.9 percent) are living in other provinces in Java and Madura, and the other half (49.2 percnet) have settled down in the provinces in Sumatra. Presented in the right half of the table are the numbers of people who

Table 2.8 Mobility of Population into and from Central Java, 1971

	Born in Central Java and Living Elsewhere (Persons)	(Percent)	Born Elsewhere and Living in Central Java (Persons)	(Percent)
DKI Jakarta	500,689	28.1	21,630	8.3
West Java	186,329	10.4	61,090	23.5
DI Yogyakarta	57,387	3.2	51,510	19.8
East Java	126,904	7.1	65,533	25.2
Java & Madura	871,309	48.9	199,763	76.7
Sumatra	875,976	49.2	30,761	11.8
Other Outer Islands	34,465	1.9	29,784	11.4
Total	1,781,750	100.0	260,308	100.0

Notes: 1/ Excludes Kalimantan Tengah, Maluku, Irian Jaya, and Nusa Tenggara Timur.

2/ Includes foreign countries.

Source: Table 2.12 and Table 2.16.

were born in other provinces and presently live in Central Java as of 1971. There were about 260 thousands of immigrants from the other provinces. The figure is around one-fifth of the Central Java-born population presently living in elsewhere in the nation, and the configuration by provinces is also much different. It is striking that Java and Madura, especially West Java and East Java the two neighboring provinces, are the major origins of the immigrants to Central Java, the share for each being a quarter of the total. The migrants to Jakarta from the Province are almost 23 times greater than those moving in the opposite direction, and those to Sumatra are 29 times greater than the other way around.

(b) Out-Migration From the Province

02.039 The number of those who were born in Central Java or living previously in the Province and now living in other provinces are presented in Table 2.9. As seen in the table the total number of both are balanced if all the provinces are totaled. There were 1,782 thousands of Central Java-born and 1,762 thousands of Previous Residents in Central Java (see Section A.3.2), the margin between them being around 1 percent for each. But for each specific destination there appear more conspicuous differences. For Jakarta, Previous Residents in Central Java are slightly outnumbered by the other, showing a sign of the existence of relatively large population who move first to other provinces and then eventually settled in Jakarta. The same inference applies to Sumatra. On the other hand, the opposite sppears to be the case with the provinces in Java other than Jakarta and the outer islands other than Sumatra; those who once came to Central Java and went to the provinces excluding Sumatra and Jakarta, whichever their birthplaces are, exceed in number those who moved in the provinces excluding Sumatra and Jakarta from Central Java via other provinces although the margin is considerably small.

02.040 How many people move out of Central Java every year is not easy to assess. Some clue to the problems is to be given in Table A.14 in Appendix A where the Previous Residents in Central Java are cross-tabulated by the duration of inhabitation in the present residence. From the table it is known that the yearly movement from the Province has rarely declined below 80 thousands and sometimes amounted to more than 100 thousands, and that the out-migration was decreasing in number through 1960s. Also it is known from a close analysis that the movement to Jakarta is likely to have increased in the 1960s. By the same token the movement toward parts of Java Island other than Jakarta appears to be remaining steady. In contrast the direct movement towards Sumatra from Central Java appears to have declined significantly throughout the 1960s. This over-all pattern is not considered to vary by sex.

02.041 The movement from Central Java did not increase during the decade of 1960s, the reason being the decreasing movement towards Sumatra, which well outweighs the increasing numbers of movement towards Jakarta and other provinces in Java. In the late 1960s the number of

Table 2.9 Outward Movement From Central Java

	Born in Central Java and Living in Elsewhere, Total	Previously Residents of Central Java and Living Elsewhere, Total
DKI Jakarta	500,689	484,044
West Java	186,329	199,089
DI Yogyakarta	57,387	66,289
East Java	126,904	131,728
Java and Madura	871,309	881,150
Sumatra	875,976	842,384
Other Outer Islands 1/	34,465	38,902
Total	1,781,750	1,762,436

Note: 1/ Outer islands excluding - Kalimantan Tengah, Maluku, Irian Jaya, and Nusa Tenggara Timur.

Source: Table 2.12 and 2.13.

direct movement from Central Java is estimated at somewhere inbetween 80 thousands and 100 thousands.

(c) Population Inflow to the Province

02.042 The population-flow into Central Java is not insignificant. The number of persons in Central Java who were born in other provinces are presented in Table 2.10. Also, see Section A.3.4 for the detailed disucssion on this subject. The table indicates the existing margin of numbers for Born-in-Other-Provinces and Previous Residents in Other Provinces. There were 253 thousands who were born in other provinces and living in Central Java in 1971, while those whose previous residence was outside Java were 595 thousands, more than the double of the former. A further analysis of the data at least reveals that, although the inflow of population to Central Java as measured by the number of people who used to live elsewhere amounts to be about one-third of the outflow, a substantial part of this inflow, about a half, is in fact the returning population.

Table 2.10 Population Born and Previously Living in Other Provinces and Now Living in Central Java

	Born in Other Provinces (1)	Previous Residents in Other Provinces (2)	(2)-(1)
D.K.I. Jakarta	21,630	102,064	80,434
East Java	61,090	126,967	65,877
D.I. Yogyakarta	51,510	68,024	16,514
West Java	65,533	98,280	32,747
Java and Madura	199,763	395,335	195,572
Sumatra	30,761	143,730	112,969
Other Outer Islands	22,963	55,835	32,882
Total	253,477	594,900	341,423

Source: Tables A. 16 and A. 17.

02.043 The only available way to scan the trend of the inflow of the immigrants to Central Java is to investigate the tabulation of the

Previous Residents in Other Provinces as cross-classified by the duration of residence in Central Java. An examination on the relevant data presented in Appendix A (Section A.3.5) revealed that the return-migrants and the movements from the other provinces are likely to be increasing over time in the 1960s: there were at least 23 thousands who moved into Central Java, on the average, for three-year period in the early 1960s (7 to 9 years before the 1971 Census), whereas that for the end of the 1960s (1 to 3 years before the Census), it is around 49 thousands.

02.044 In terms of absolute number it would not be too risky to state that the number of inflow of population into Central Java in the later 1960s is somewhere inbetween 40 thousands and 60 thousands.

(d) Age Structure and Educational Attainments of Out-Migrants

02.045 As the last aspect of the investigation of transmigrants from and to Central Java, attributes of the migration population in terms of age structure and educational attainment are examined.

02.046 Although what draws our attention is the age structure of the migration population from year to year, we only have data on each of the age category at the point of 1971. An examination on this data revealed that the population migrating to the other provinces consists of substantial number of members of the younger generation; and this concentration in younger age group is more apparent with the migrants to Jakarta.

02.047 Educational attainment of the migrants from Central Java is generally better than those who stay in the Province. The population having less than the primary school education accounts for 64 percent of the total migrations above age 10 from Central Java; This is a high figure but still considerably lower than the 80 percent average for the population living in Central Java. Jakarta is attracting people with relatively higher educated population, and in contrast, Sumatra is the destination for those with minimal education is evident.

02.048 Although the difference by sex is enormous, the pattern of that difference doesnot appear to differ from one destination to another.

2.2.4 Future Growth of the Population

(a) Population Growth Projected

02.049 The projected future growth of the population is presented in Table 2.11. Age-cohort method was used for the estimation and the assumptions and procedures are presented in Appendix B. If the factors assumed remain constant over time, the population of Central Java will be 25,853 thousands in 1981, 28,412 thousands in 1986, and will amount

to 31,511 thousands in 1991.[3/] An increase of nearly 8 million in population is expected within 15 years.

02.050 In terms of population growth the important fact is that the rate would remain almost stable in 1970s, but it will increase again in 1980s to 1.902 percent for 1981 to 1985 (average) and 2.093 percent for 1986 to 1991 (average). Admittedly the growth rate is very sensitive to the various assumptions, and the rates for the 1970s are subject to error by plus or minus 15 percent. But it seems to be inevitable for Central Java to increase in growth rate in the 1980s unless an extra-ordinary drop in the fertility rate and/or massive out-migration plans are achieved. The reason for this is that the younger generation produced in the baby-boom in the 1960s to 1970s will reach reproductive age in the 1980s and 1990s. The increasing crude birth rate in Table 2.11, from 3.7 or 3.6 in the 1970s to 3.9 or 4.1 in the 1980s, well evidences the fact. On the other hand, the crude death rate will only gradually ascend through the 1970s and 1980s, due to the relatively large part of the population which is still young during that period.

02.051 A grave implication of this is that Central Java is going to have a much larger infant population to feed and educate, and a larger young population that necessitates abundant employment opportunity.

(b) Consequences of the Growth Population

02.052 The consequences of the population growth can be quested further by skimming Table 2.12, where the growth of population is disaggregated into the growth of the four age cohorts. Conspicuous is the fact that the age bracket of 0 to 14 is not expected to grow in the 1970s, and is expected to then resume expansion in the 1980s to reach at 12,313 thousands at the beginning of 1990s; in contrast, the population in the age brackets of 15 to 29 will gain an extreme momentum of increase in the 1970s, and the expansion will continue although at a slackened pace in the 1980s. Age 30 to 44 will not grow significantly until the latter half of the 1980s, while age 45 and more will show a steady increase throughout the projection period. Consequently the share of the population below age 14 and that between age 30 to 44 will decrease from 44 percent in 1971 to 39 percent in 1991 and from 19 percent to 15 percent in 1991, respectively. On the other hand, the age bracket of 15 to 29 will gain in its share from 22 percent to 29 percent, and the age bracket of 45 and more will increase from 15 percent to 17 percent.

02.053 The significnace of this projection is that it implies the major problem to be faced in the human resources sector will be different in the coming 15 years from that which used to be. The number of children of school-going age will not grow much until the middle of the 1980s, giving a sign that the growing demand for resources and services including

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3/ The projected figure for 1976 is different from the 1976 population estimated from Population Registration, although the margin is as small as 19 thousands. This occurs because the projection is based on the 1971 Census.