SITUATION ANALYSIS OF CHILDREN AND WOMEN IN INDONESIA

Government of Indonesia – UNICEF
December 1988

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FOREWORD

The Situation Analysis of Children and Women in Indonesia was produced in the course of preparing the co-operation between the Government of Indonesia and UNICEF for the period 1990-1995. The draft was prepared by inter-agency Sectoral Task Forces--including the Central Bureau of Statistics and the National Development Planning Agency (Bappenas)--with UNICEF. It was subsequently discussed and mutually approved at the Annual Review Meeting of GOI-UNICEF Co-operation on October 27, 1988 in Jakarta. As such, it serves as a basic document for the preparation of the Country Programme Strategy for UNICEF assistance to Indonesia and for the Master Plan of Operations of GOI-UNICEF Co-operation 1990-1995 which is being submitted to the UNICEF Executive Board for approval at its Annual Meeting in New York in April 1990.

The GOI-UNICEF Programmes of Co-operation have always been formulated in terms of continuity, harmony and mutual support within the Basic Guidelines of State Policy (GBHN) and consecutive Five-Year Development Plans (Repelitas). In particular, for the next GOI-UNICEF co-operation during 1990-1995, the 1988 GBHN and Repelita V serve as its basic framework, especially the parts relevant to UNICEF's policies and mandate for active support and advocacy of the survival, growth and development of children. Thus, GOI-UNICEF continuing co-operation has been always within the framework of implementing national programmes in various fields of social and cultural development, in particular those activities which are closely related to the welfare of children, their mothers and women in general, and primarily those who are living in rural areas.

The Situation Analysis of Children and Women in Indonesia is published in an Indonesian language Summary edition and an unabridged English language edition with the sincere hope that the publication will also be useful for a wider interested audience.

Jakarta, 25 January 1989

UNICEF Representative in Indonesia

Daniel J. Brooks

Deputy for Social Cultural Affairs
BAPPENAS

Dr. Soekirman

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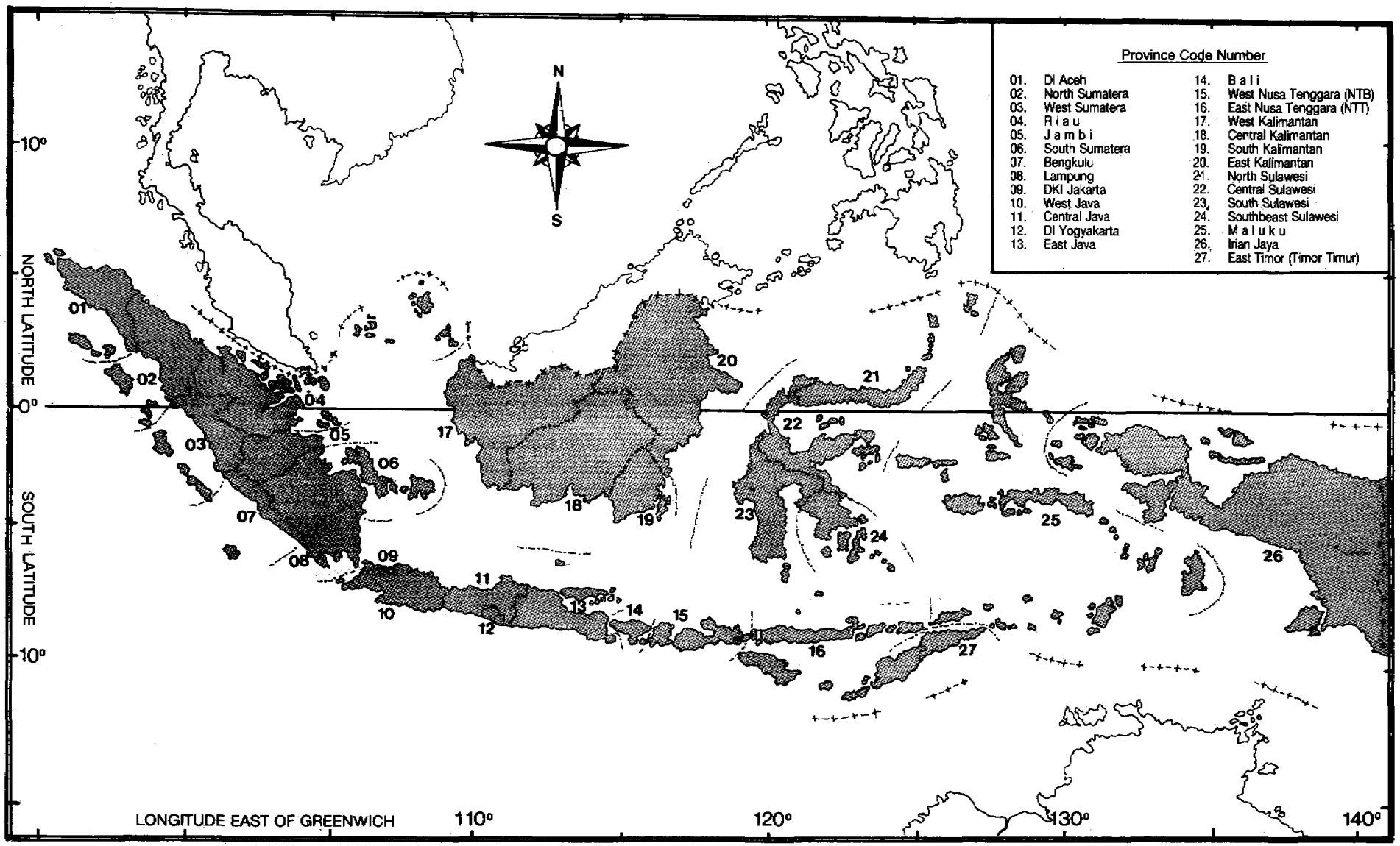

Province Code Number
01. DI Aceh
02. North Sumatera
03. West Sumatera
04. Riau
05. Jambi
06. South Sumatera
07. Bengkulu
08. Lampung
09. DKI Jakarta
10. West Java
11. Central Java
12. DI Yogyakarta
13. East Java
14. Bali
15. West Nusa Tenggara (NTB)
16. East Nusa Tenggara (NTT)
17. West Kalimantan
18. Central Kalimantan
19. South Kalimantan
20. East Kalimantan
21. North Sulawesi
22. Central Sulawesi
23. South Sulawesi
24. Southbeast Sulawesi
25. Maluku
26. Irian Jaya
27. East Timor (Timor Timur)
N
S
10°
0°
10°
NORTH LATITUDE
SOUTH LATITUDE
LONGITUDE EAST OF GREENWICH
110°
120°
130°
140°

I N D O N E S I A

CHAPTER I

INDONESIA: A BRIEF OVERVIEW

A. PHYSICAL CHARACTERISTICS

The Republic of Indonesia is the world's largest archipelago, with total land area of 1.9 million square kilometers. It consists of 5 main islands and about 30 smaller archipelagos totalling about 13,700 islands and islets of which approximately 6,000 are inhabited. Situated along the equator between the Malay Peninsula and Australia, Indonesia's territory extends over 5,000 kilometers from east to west and 1,750 kilometers from north to south.

After China, India, the Soviet Union and the United States, Indonesia is the world's fifth most populous country. The 1985 population was estimated at 164 million, up from 147 million in 1980 and 119 million in 1971. Average annual population growth during the decade of the 1970s was 2.3 per cent, dropping to about 2.1 per cent by the mid 1980s. Projections to the year 2005 indicate an increase of 67 million to a total of 231 million. In 1985, about half the population was under 20 years of age, and about 40 per cent under age 15. Life expectancy in 1985 was estimated at 57.9 years for males and 61.5 years for females.

The fertile islands of Java and Bali, which together constitute about 7 per cent of the total land mass, accommodate almost 63 per cent of the population (see Table 1.1). Java, with an average density of 755 persons per square kilometer (up from 690 in 1980), is among the most densely populated regions in the world. By contrast, Irian Jaya has the lowest density among the country's 27 provinces, with only 3 persons per square kilometer.

A government-sponsored transmigration programme has resettled substantial numbers of people from the most densely populated islands (primarily Java and Bali) to other areas of the country (i.e., Sumatra, Kalimantan, Sulawesi and Irian Jaya). This programme aims at relieving population density in the most crowded areas while simultaneously aiding and stimulating development and spontaneous settlement in Indonesia's relatively underdeveloped regions. During the first three Five-Year Development Plan (Repelita) periods, about 640,000 families were resettled, and another 441,000 households have been moved and resettled during the first three years of the fourth Repelita. About 40 per cent of the Repelita IV total were government-organized; the remainder were spontaneous, some of these with partial government assistance.

Table 1.1. Area and Population of Indonesia's Major Islands, 1985

Island	Per cent of area	Population ('000)	Per cent of population	Pop. density (per km2)
Java (incl. Madura)	6.9	99,852	60.9	755
Sumatra	24.7	32,603	19.9	69
Sulawesi	9.9	11,554	7.0	61
Kalimantan	28.1	7,122	4.7	14
Bali	0.3	2,649	1.6	416
Irian Jaya	22.2	1,371	0.8	3
Other	7.9	8,296	5.1	53
Total	100.0	164,047	100.0	85

Source: CBS, SUPAS 1985 No. 5.

About half of Indonesia is forested and much of it is mountainous and volcanic. On the island of Java alone there are 112 volcanoes of which 15 are active. The climate is tropical, with average daily temperatures varying between 22°C and 27°C (72°F and 81°F). Seasonal differences are slight due to its position along the equator.

Annual precipitation varies widely among regions, but generally averages between 750 and 2,000 mm (30 and 80 inches). However, in the mountainous areas of the equatorial rainbelt (parts of Sumatra, Kalimantan and Sulawesi) rainfall may exceed 4,000 mm (160 inches) per year. In general, the driest period is during the months from July to October, but the intensity and duration of dry and rainy seasons differ substantially among the major regions of the country.

B. HISTORICAL BACKGROUND

Archaeological evidence suggests that modern man lived in the Indonesian archipelago as early as 40,000 years ago. The earliest inhabitants were of the Australoid group, which survive in isolated pockets throughout Southeast Asia. The majority of Indonesians today are the descendants of people who moved southward from southwest China during the second and third millennia B.C. These migrants formed two broad though by no means exact categories, the Proto-Malay and the Deutero-Malay. The first of these groups is represented by the Torajas of Sulawesi, the Dayaks of Kalimantan and the Bataks of Sumatra; the less homogenous "Deutero-Malay" family is represented by the Malays of Sumatra, the Javanese, Sundanese, Balinese and Madurese. This heterogeneous ethnic composition helps to account for the openess of Indonesian culture to outside influences and for the religious tolerance of the Indonesian people.

The "Hindu-Buddhist" period from the fourth to the fourteenth century A.D. saw the rise and fall of a number of powerful kingdoms and empires, including the Singasari, Kediri, Mataram and Majapahit kingdoms in Java, and Sriwijaya in Sumatra. Majapahit (14th century) hegemony extended from Sumatra in the west as far as Irian Jaya in the east. As a result, Javanese influences are evident in the political systems of kingdoms in the other islands. These great pre-Islamic civilizations left major literary and artistic legacies, which can still be seen in the temples of Borobudur and Prambanan, for example, as well as in Javanese literature. The Hindu-Buddhist period has had a lasting influence on the political and cultural organizations of present-day Indonesia. Pre-political units probably existed in Indonesia, but Hinduism played a crucial part in the emergence of large political units, providing both an organizational model and the sanction of religious ideology.

The coming of Islam did not bring about radical changes either in political systems or social and cultural life. This may be partly due to the fact that Islam reached Indonesia not from its Middle Eastern heartland, but from India. The Indian version of Islam, filtered through the religious experience of India and imbued with mysticism, found fertile ground for its acceptance in Hinduized Java. Sufism, or Islamic mysticism, rather than Islamic orthodoxy, took root in Java and in parts of Sumatra. Of particular significance is the fact that Islam, as it developed and spread in Indonesia, did not lead to the creation of a distinct and separate community, nor to a deep division between Hindus and Muslims.

The end of the 16th century saw the arrival of Portugese and Spanish traders, later followed by the Dutch and English, who came to Indonesia in search of spices. In the early years of the seventeenth century, the United Dutch East India Company occupied certain strategic locations where they built their forts. The company held sovereignty over limited areas until its dissolution in 1799, when a colonial regime was established under the Dutch Government.

It was not until the early 20th century, with the defeat of the Jambinese and Achenese of Sumatra, that the Netherlands East Indies extended its political sovereignty over all parts of Indonesia. The Dutch made Java their administrative centre, and governed Indonesia through a system of "indirect rule"-the use of traditional local leaders as instruments of colonial policy and administration. Except for a five-year hiatus during the Napoleonic wars, when the country came under British control, sovereignty remained with the Dutch until the country fell to the Japanese in 1942.

The Dutch chose Java as the centre of its colonial administration, where since ancient times the fertile volcanic soil has provided excellent ground for wet

rice cultivation and permanent human settlements. This accounts for the present concentration of population in Java. Java's rapid population growth since the latter part of 19th century is largely attributable to the gradual improvement of modern health services on the island and to increasing general welfare.

As Indonesia became a major supplier of agricultural and mineral staples for the world market, areas outside Java gained importance as producers of rubber and other commodities. The arrival of Chinese migrants in the Outer Islands during the nineteenth century, and their adoption of an active role in trade, gave added impetus to the growth of areas outside Java in the Indonesian economy.

The late 19th and early 20th centuries witnessed a strengthening of economic and political control by the Dutch. However, economic and administrative development during this period forced the Dutch colonial rulers to introduce Western education, initially limited to the sons of indigenous aristocrats, in order to increase the supply of skilled manpower for the administration of the colonial bureaucracy. It was these Western-educated Indonesians, together with those whose nationalistic sentiment had been stimulated by contacts with the Middle East, who were eventually to challenge Western dominance.

On August 17, 1945, Indonesia declared its independence and the 1945 Constitution was adopted. The struggle was not won, however, until 1949. For some provinces it came much later. For example, Irian Jaya became an Indonesian province in 1963. East Timor was incorporated in 1976, after 300 years under Portugese colonial administration.

Soekarno, one of the major figures in the Indonesian revolution, became the nation's first President. Under his charismatic leadership Indonesia played an active role in the Non-Aligned Movement among newly-independent states. Domestically, however, the early independence period was marked by political and economic instability. In 1966 the executive power of government was transferred to General Soeharto, who was subsequently elected President by the Provisional People's Consultative Assembly in 1968. President Soeharto has been re-elected for five-year terms in 1973, 1978, 1983 and 1988.

The government is based upon a general political ideology known as *Pancasila* (the Five Principles, namely, belief in one God, humanism, national unity, democracy based on deliberation and consensus, and social justice). Current government policies and development programmes are guided by three interrelated national goals, stability, economic growth and equity.

C. SOCIAL AND CULTURAL DIVERSITY

Over the centuries, Indonesia has been a veritable melting pot of many races, cultures, religions and languages. Trade has been the key to much of this population movement. There is evidence of Chinese trade in the area dating back to at least 100 B.C., but contact with India, beginning in the fourth century, has been more influential in Indonesian historical development than that with China. However, when Indonesia felt the earliest impact of Indian culture, it already possessed a civilization of its own. Although subject to considerable local variation and to subsequent modification by Hinduism, Buddhism, Islam and Christianity, these original cultural elements survive.

Although most Indonesians are basically of Malay stock, more than 100 distinct ethnic groups with a wide array of languages, customs and material cultures make up the modern Indonesian nation.

A variety of physical types are represented, exhibiting differences in pigmentation, hair type, stature and physiognomy. It is estimated that 300 distinct languages exist in the archipelago. *Bahasa Indonesia*, a variant of Malay, which was long the *lingua franca* throughout much of the archipelago, is the national language. Of the local languages, Javanese, Sundanese and Balinese are spoken by large numbers in their respective areas. English is part of the secondary school curriculum.

There are five officially recognized religions in Indonesia: Islam, Protestantism, Catholicism, Hinduism and Buddhism. Almost 90 per cent of the population are followers of the Islamic faith. Local beliefs and traditions and customary laws called *adat*, often govern practices relating to marriage and divorce, inheritance and property arrangements. Ethnic identity may be defined by one's *adat* and religion.

The inhabitants of the archipelago have adapted to their extremely varied physical environment by developing and applying a wide variety of cultivation systems appropriate to their respective areas. On the fertile islands of Java and Bali intensive cultivation of rice has supported a large and densely settled population for centuries. This *sawah* system of rice cultivation has in turn encouraged the development of a high degree of social co-operation which has created the backbone of social networks that have effectively linked villages with towns.

The "Outer Islands"--those islands other than Java and Bali--have generally less favourable agricultural conditions that on the whole have supported smaller populations with less complex systems of social organization.

As discussed in the following chapters, regional differences are manifested today in varying levels of education and literacy, mortality and morbidity, and degree of access to health and other services.

D. POLITICAL AND ADMINISTRATIVE SYSTEM

The current system of government is based on the 1945 Constitution. The highest authority is vested in the People's Consultative Assembly (MPR), which elects the President and Vice-President and sets the Basic Guidelines of State Policy (GBHN). The GBHN has established the basis for the Five-Year Development Plans (REPELITA) which have been a prominent feature of Indonesian development planning since 1969.

Indonesia's constitutionally designated legislative body is the House of People's Representatives (DPR). Membership of the House (or Parliament) includes 400 elected representatives and 100 members appointed by the government to represent the armed forces. Members of the House automatically become members of the Consultative Assembly as well, along with 500 other appointed members representing the various regions and functional groupings such as political organizations, farmers' groups, labour, youth, women and the professions.

Indonesia is divided into 27 provinces which are in turn divided into districts (*kabupaten*) or municipalities (*kotamadya*), sub-districts (*kecamatan*) and villages (*desa* or *kelurahan*) (see Figure 1.1). Each province is headed by a governor appointed by the President from at least three candidates selected by the provincial People's Representative Council (DPRD). The Governor is assisted by a Provincial Development Planning Board (BAPPEDA) in matters related to the co-ordination of development planning and monitoring activities in the province. Central government departments have regional offices (*Kanwils*) in each province which administer central government programmes. These offices report to the governor as well as to their central government departments. The provincial governments have their own "technical" offices (*dinas*) in such areas as agriculture, health, education and public works. These offices report directly to the governor, and co-operate closely with their counterparts in the provincial offices of central departments.

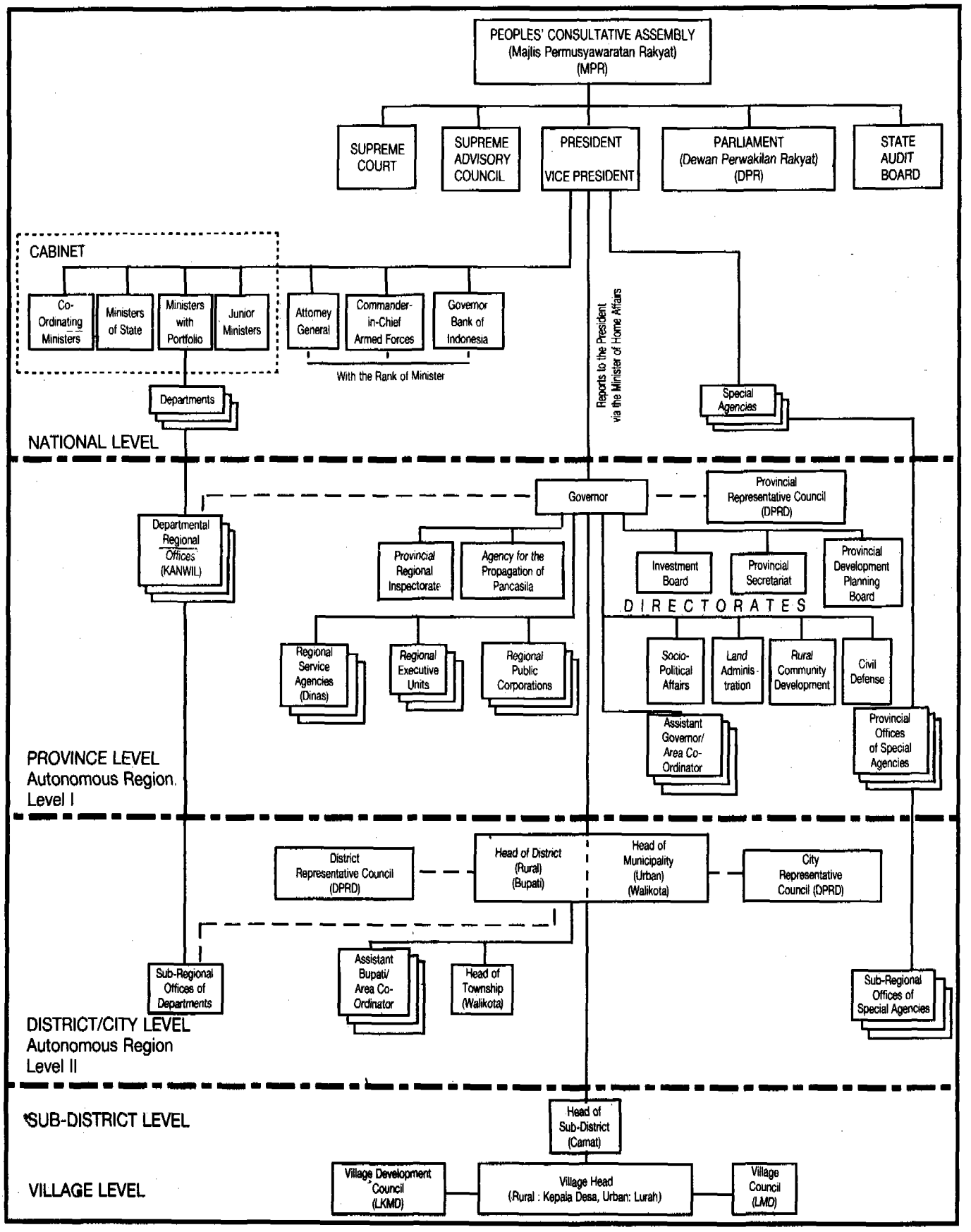
As indicated above, each province is divided into a number of districts (*kabupaten*), of which there are a total of 295, and municipalities (total 54). *Kabupaten* are headed by *bupati* and municipalities by *walikotamadya* (mayor), appointed by the governor from candidates elected by the *kabupaten* or *kotamadya* representative councils.

The sub-district (*kecamatan*) is headed by a *camat* who reports to the district level head *(bupati)*. Some provincial offices also have *dinas* at the *kecamatan* level which report jointly to the sub-district head and the sectoral office in the district capital. Unlike the governments at provincial and *kabupaten/kotamadya* levels, which are "autonomous regions" with district representative councils, the *kecamatan* functions as a co-ordinating and implementing entity without autonomous powers or responsibilities.

Each *kecamatan* consists of a number of villages (*desa* in rural areas and *kelurahan* in cities and towns). The village head (*kepala desa*) is a locally-elected official, while the *lurah* is appointed by the *bupati* or *walikotamadya*.

In total, there are about 3,529 *kecamatans* and 66,744 urban and rural villages.

Figure 1.1. ORGANIZATIONAL STRUCTURE OF THE INDONESIAN GOVERNMENT



Village heads are assisted by LKMDs (*Lembaga Ketahanan Masyarakat Desa*/Village Development Council) which advise on community development activities. Within a village there are "neighbourhood associations" (*Rukun Warga*, or RW) and "household associations" (*Rukun Tetangga*, or RT), both chaired by elected representatives.

The overall legal basis for regional government is found in the Basic Law No. 5 (1974) which defines the powers granted to local authorities by the central government. The focal point in the national government is the Department of Home Affairs which has the responsibility for supervising local government agencies and specifying local government roles and responsibilities.

Ministerial Instruction (INMENDAGRI) No. 4, 1981, established the general basis for integration between bottom-up planning through village LKMDs and top-down programming. The system is now in operation throughout the country.

E. TRENDS IN DECENTRALIZATION

The Basic Law of 1974 is still the key legislation related to decentralization of government authority from the central government to provinces and districts/cities. This law, and subsequent ministerial decrees, provide the operational basis for the decentralization of certain government functions. They represent a major effort to strengthen the role of sub-national government in general administration and co-ordination of development efforts.

Some progress in this direction has been achieved. There is evidence, for example, of improving capacity among local governments to plan, manage, and monitor important development projects in the economic, public works and social sectors. Government budgetary processes have been relaxed in some instances to give provinces and *kabupatens*/cities more flexibility in the allocation of resources. In addition, the provincial planning boards (BAPPEDA) have begun to play an increasingly active role in the co-ordination of development activities in their respective regions.

There has also been some devolution of project management authority from provincial to district/city levels. The benefits of this are observable not only in improved project management, but also in the performance of planning boards and implementation agencies--e.g., public works, health--at this level. In a recent development, decentralization of credit provision through provincial development banks, local branches of *Bank Rakyat Indonesia* and the *Kupedes* (General Village Credit Institutions) has achieved some important successes in channelling credit services to a broader and larger population.

Central government departments and agencies still play a dominant role in planning and managing programmes at sub-national levels. For example, local governments' authority to raise revenues is very limited and they are still highly dependent on the central government for grants. While funds provided through the Presidential Grant Programme (known as INPRES--Presidential Instruction) for local projects have been substantial throughout Repelita III and IV, these grants tend to be used primarily for infrastructure development or earmarked for specific purposes. This limits the ability of local governments to allocate these funds for locally-identified needs.

Sectoral allocations through national departments and agencies are normally intended for specific programmes which operate within well-defined policy and operational guidelines established at the central level. Though national-regional consultations attempt to synchronize sectoral and regional priorities, sustained communication and co-ordination among central, provincial, city/district and community levels still need to be improved.

Despite all the problems and difficulties that decentralization entails, there is growing interest in further strengthening the developmental as well as the public administration roles of local government. Among other reasons, local governments have the potential to bring creative, relevant and energetic solutions to important nation-wide problems in a way that is most appropri-

ate and cost-effective in their localities. They are in the best position to increase all forms of community participation-in the planning and management of activities, the mobilization of manpower through Indonesia's traditional self-help ethic known as *gotong-royong*, and the encouragement of greater community financial support.

It will be a continuing challenge for local governments to realize their full potential as focal points for local development, including improvements in child survival and development. Therefore, there will undoubtedly be a continuing need to enhance the planning, management, co-ordinating and monitoring capacities of local government, especially for social development services where, understandably, many local governments have not yet developed as much organizational capacity compared to their capacities in economic development and public works.

F. RESOURCE BASE AND ECONOMIC STRUCTURE

Both natural and human resources are important elements of every country's economic resource base. In terms of potential natural resources, Indonesia is a large country, in both geographical and demographic terms, and in Asia only China, India and the Soviet Union are larger. Indonesia's economic activity is concentrated on the islands of Java and Sumatra and to a lesser extent on Kalimantan (Borneo), Bali and Sulawesi. This pattern has evolved because of the wide differences in distribution of both natural and human resources within this large and diverse island nation.

Spread along the equatorial line, Indonesia's climate and agricultural capabilities are strongly influenced by its geographic location. The monsoon winds guide cropping patterns with wet, westward winds in December, January and February and dry eastward winds in June, July and August. However, the dry season is still wet enough to allow double- and triple-cropping in much of the heavily cropped areas. The natural vegetation of most of the islands is tropical rain forest, and soils are generally subject to rapid leaching and laterization if the vegetative cover is removed. The best soil conditions are found on Java with its fertile volcanic base. Soil conditions in Kalimantan, Sumatra and elsewhere are comparatively poorer in quality.

Although Indonesia has very large reserves of valuable exportable minerals such as petroleum, tin and bauxite, there are very limited endowments of minerals suitable for industrial use, such as high-grade iron ore deposits, coking coal, sulfur nickel and manganese. Thus though Indonesia's natural resource base is good compared to such countries as Japan or India, it is still relatively limited in certain important respects.

At the time of independence in 1945, Indonesia had a severe shortage of qualified technical and managerial personnel, and a literacy rate of only 5 per cent. As a result, the government has given education a very high priority, expanding the entire school system as rapidly as possible along with improving the quality of education. The government decision in May 1987 to make primary education compulsory was made possible by the existence of adequate number of primary schools all over the country. Success, as measured by the decline of illiteracy (see Chapter IV on Education and Literacy), has been dramatic, and this has been a major element of Indonesia's development efforts. The literacy rate as estimated in 1985 was 77 per cent (male 86 per cent, female 70 per cent). Further efforts are needed, however, to raise the technical levels of Indonesian workers and farmers in order to better meet the country's modernization needs.

The continued growth of an efficient agricultural sector is particularly important to support the general recovery of the economy, and to increase rural incomes and employment opportunities. Self-sufficiency in rice was achieved in 1985. A major challenge is now to encourage the development of a more efficient and diversified agricultural sector with the capacity to respond to changing market conditions. This involves both diversification of crop patterns and a more knowledgable and skilled rural work force.

The largest contributor to Indonesia's Gross Domestic Product is agriculture, forestry and fishing, al-

though the share of this sector declined from 28 per cent in 1978 to 26 per cent in 1986 (Table 1.2). Smallholder agriculture produces mainly rice, cassava and other food crops for domestic consumption. Estate agriculture is largely oriented to the production of rubber, palm oil, tea and sugar. Major products for export in 1985--in descending order of their dollar value--were plywood, rubber, coffee, textiles and handicrafts, tin, aluminium ingots, tea, shrimp and palm oil.

The second major economic sector is mining and quarrying, which includes oil and mineral exploitation. Although non-oil exports are gaining in importance, oil and related products such as liquified natural gas (LNG) are still the most important export products. However, the share of mining and quarrying in the GDP declined from 18 per cent in 1978 to 11 per cent in 1986.

Three other major sectors (Manufacturing, Wholesale and Retail Trade, and Transportation and Communication), unlike the first two, have increased their shares of the GDP. Between 1978 and 1986 the manufacturing sector increased from 12 percent 14 percent , the wholesale and retail trade sector increased from 14 percent to 17 percent and transportation and communication increased from 5 percent to 7 percent. This reflects a diversification in economic development.

Table 1.2. Gross Domestic Product by Major Sector

	Per cent of GDP	
	1978	1986*
Agriculture, forestry and fishing	28	26
Mining and quarrying**	18	11
Manufacturing	12	14
Construction	6	5
Wholesale and retail trade	14	17
Transportation and communications	5	7
Banking and financial services	2	3
Public administration and defense	7	9
Services	8	8
Total GDP	100	100

Source: World Bank, Adjustment, Growth and Sustainable Development, 1988, p. 156

* Preliminary

** Includes oil and natural gas

CHAPTER II

THE SOCIO-ECONOMIC SETTING AND SOCIAL POLICIES AFFECTING CHILDREN AND WOMEN

A. CHANGES IN THE SOCIO-ECONOMIC SETTING

There have been important changes in the socio-economic setting and the social policies affecting children and women since the first Situation Analysis in 1984. In terms of demographic structures and trends, Indonesia has managed to hold the population growth rate at 2.1 per cent annually. This suggests that there may be a structural change in the future population structure whereby the number of children ages 5-9 years may exceed the number of children under age five for the first time since 1961.

On the other hand, the proportion of women of childbearing age is growing larger, and if current trends continue will increase from 24.5 per cent of the total population in 1980 to 26.0 per cent by the year 2000. The extent to which this change will herald another significant increase in the size of the population of children under age 5 years will depend largely on the continued success of family planning efforts. Here the general global experience may be very important: reducing infant and child mortality contributes to reduced population growth because parents are more confident that their first few children will survive and thrive.

A second major structural change to Indonesia's population is rapid urbanization--mainly in Java--which appears to be largely due to rural-urban migration. Indonesia now has a national urban centre network of 384 urban places with populations of 10,000 persons and above. Four cities have a population of 1 million persons or more and 18 cities have between 200,000 and 999,000 persons. If the current average annual urban growth rate of 5.5 per cent continues, by 1995 urban dwellers will total 73.5 million persons, or about 36 per cent of the total population. The urban child population (ages 0-4) could reach approximately 9.6 million. This would obviously have major implications for child survival and development efforts in Indonesia and for the effort to achieve Health for All and related goals by the year 2000.

Since the 1984 Situation Analysis, there have been other major changes in the socio-economic setting. Some of these reflect intensified government and community focus and political commitment to reduction of poverty and improved child survival and development. These changes and their implications can be summarized as follows: (1) the decline of the number of persons living in poverty from approximately 54 million persons (40 per cent) in 1976 to 35 million (22 per cent) in 1984; (2) the strong growth and increased outreach of the mass (print and broadcast) media in the early mid-1980s to most of Java and Bali and to many other parts of Indonesia. Almost 20 per cent of all households have television (1985); radio broadcasts reach virtually the entire population, but printed media's outreach is much less. Hence, there is yet a great untapped potential to more systematically and continuously tie social mobilization and advocacy for child survival and development to these powerful media in more effective ways.

Increasing social mobilization for child survival and development should become a growing and more visible priority in Indonesia in the late 1980s and 1990s for several important reasons, as the analysis of government expenditure patterns, basic programme interventions and development indicators suggest. Among other things: (1) the international economic problems in the 1980s have hindered Indonesia's economic growth and, therefore, are limiting growth in financial resources for child survival and development. Hence, additional resources will have to come from the community as well as from the government; (2) in the final analysis, the problems of child survival and development are rooted largely within communities and families. It is very important, therefore, that current and future child survival and development initiatives (including immunization, ORT, growth monitoring, etc.) be in close parallel

with the positive, growing trends in decentralization and strengthening of provincial, district/city, sub-district and village government capacities in planning and management of development efforts; and (3) there has been substantial progress in increasing access for most key child survival and development services in Indonesia, e.g., immunization, growth monitoring, diarrhoeal disease control, etc., and some progress in increasing service coverage. There have been very important and impressive increases in complete EPI coverage, from 10 per cent nationally in 1984/85 to 65 per cent in 1987/88; access to Posyandu (village integrated service posts) reached 80 per cent of all children under age 5 in early 1988. However, there is still relatively low coverage of other important services, and uneven community participation remains a serious issue for the late 1980s and 1990s. Hence, increasingly effective social mobilization is perhaps the key need for further improving child survival and development in Indonesia.

B. DEMOGRAPHIC PATTERNS AND TRENDS

The latest estimates indicate that the Indonesian population is growing at a rate of about 2.1 per cent per year. For a population of 164 millions in 1985, this means an addition of 3.5 million persons per year. In 1985, the year of the most recent full-scale population survey, about 4.9 million babies were born--one every 6 seconds. In the same year, a death occurred about once in 21 seconds. More than 40 per cent of these deaths occurred among children below the age of five.

It is projected that by the year 2000 Indonesia's population will have reached 216 million, 52 million more than in 1985. With a declining fertility rate, the proportion of young children is expected to drop from 13.1 per cent in 1985 to about 11 per cent in 2000, though in absolute terms there will be more children in the latter year than there are at present. A sign of major structural change occurring in the population is that in 1985, for the first time since at least 1961, the number of children aged 5-9 exceeded the number under age 5.

While the child population is getting proportionally smaller, however, the proportion of women of childbearing age (15-49) is growing larger. In 1980 this group constituted 24.5 per cent of the total population; by 2000 it is expected to reach 26.0 per cent.

As with almost everything related to Indonesian demography, what applies at the national level may have little in common with characteristics at the sub-national level. Whereas the projected population of Indonesia as a whole will be just under 11 per cent larger in 1990 than it was in 1985, for example, Lampung province is expected to grow by 27 per cent during the same period (Table 2.1). Jambi, Bengkulu, Jakarta and East Kalimantan are also projected to increase in population by 20 per cent or more. Fortunately, the provinces with the largest population are growing at a much slower rate: Central and East Java, along with Yogyakarta, will probably increase by only 6 per cent or less by 1990, although West Java is growing more rapidly and will add nearly 12 per cent to its 1985 population of 31 million. East Java, traditionally Indonesia's most populous province, was only slightly larger than West Java in 1985, and has probably by now been surpassed.

C. URBANIZATION

In 1961, about 15 per cent of Indonesia's population lived in urban areas. By 1980, the proportion had increased to 22 per cent, and by 1985 to more than 26 per cent. In absolute terms, the urban population grew from 14.4 million to just over 43 million from 1961 to 1985, a threefold increase, while the population as a whole increased by about 1.7 times. Urban growth between 1980 and 1985 was recorded at 5.5 per cent per year, which means that although the rural population is still 2.8 times as large as the urban population, the latter is growing more than five times as fast. If this rate continues, by 1995 urban dwellers will constitute 73.5 million persons--over 36 per cent of the projected total population. If this in fact occurs, it would mean that 98 per cent of the projected total population increase from 1990 to 1995 will be attributable to urban growth alone.

Table 2.1. Population 1980 and 1985, Average Annual Growth Rates 1970-85, Population Density and Projected Growth from 1985 to 1990 by Region and Province

Province/Region	Population 1980 (mil.)	Population 1985 (mil.)	Average annual growth rate 1971-80 (%)	Average annual growth rate 1980-85 (%)	Population density 1980 (per km²)	Population density 1985 (per km²)	Projected total growth 1985-1990 (%)
DI Aceh	2.61	2.97	2.93	2.62	47	54	13.2
North Sumatra	8.35	9.42	2.60	2.42	118	133	12.1
West Sumatra	3.41	3.70	2.21	1.65	68	74	8.0
Riau	2.16	2.55	3.11	3.28	23	27	16.9
Jambi	1.45	1.74	4.07	3.83	32	39	20.0
South Sumatra	4.63	5.37	3.32	3.01	45	52	15.4
Bengkulu	0.77	0.94	4.39	4.19	36	45	22.2
Lampung	4.62	5.91	5.77	5.01	139	177	27.0
SUMATRA	28.00	32.60	3.32	3.08	59	69	--
DKI Jakarta	6.48	7.89	3.93	3.93	11,023	13,365	20.6
West Java	27.45	30.83	2.66	2.35	593	666	11.7
Central Java	25.37	26.94	1.64	1.21	742	788	5.6
DI Yogyakarta	2.75	2.93	1.10	1.27	868	925	6.0
East Java	29.17	31.26	1.49	1.38	609	652	6.5
JAVA	91.22	99.85	2.02	1.81	690	755	--
Bali	2.47	2.65	1.69	1.42	444	476	6.7
West Nusa Tenggara	2.72	2.99	2.36	1.91	135	148	9.3
East Nusa Tenggara	2.74	3.06	1.95	2.26	57	64	11.3
East Timor	--	0.63	--	2.58	37	42	13.0
NUSA TENGGARA	7.93	9.34	2.01	1.92	96	106	--
West Kalimantan	2.49	2.82	2.31	2.55	17	19	12.8
Central Kalimantan	0.95	1.12	3.43	3.21	6	7	16.5
South Kalimantan	2.06	2.27	2.16	1.94	55	60	9.5
East Kalimantan	1.21	1.51	5.73	4.41	6	7	23.5
KALIMANTAN	6.71	7.72	2.96	2.81	12	14	--
North Sulawesi	2.12	2.31	2.31	1.80	111	122	8.8
Central Sulawesi	1.28	1.51	3.86	3.22	18	22	16.6
South Sulawesi	6.06	6.61	1.74	1.74	83	91	8.5
Southeast Sulawesi	0.94	1.12	3.09	3.51	34	40	18.2
SULAWESI	10.40	11.55	2.22	2.11	55	61	--
Maluku	1.41	1.61	2.88	2.66	19	22	13.4
Irian Jaya	1.17	1.37	2.67	3.15	3	3	16.2
MALUKU & IRIAN	2.58	2.98	2.79	3.17	5	6	--
INDONESIA	147.49	164.05	2.32	2.15	77	85	10.9

Source: CBS, Ulasan Singkat Hasil Survei Penduduk Antar Sensus 1985, Seri SUPAS 1985 No. 4, January 1987. Projected population from S.G. Made Mamas, Proyeksi Penduduk Indonesia 1985-2005, n.d.

In an analysis of urbanization in the early 1980s, the World Bank estimated that 52 per cent of the urban increase from 1971 to 1980 was due to net migration into urban areas. Though no comparable analysis is available for the 1980-1985 period, there can be little doubt that in-migration continues to generate the major share of urban growth.* It is known that urban fertility is lower than the rural rate, and contraceptive use, according to the 1985 Inter-censal Population Survey, is about 18 per cent higher in urban areas.

Moreover, the traditional attractions of cities and towns are known to be of substantial importance in Indonesia. Many people come in search of jobs. The World Bank analysis mentioned above identifies greater employment opportunities in urban areas as a key factor in the urbanization process during the 1970s, noting that although the urban labour force constituted only 13 per cent of the total in 1971, urban places generated 41 per cent of all new jobs created during the decade. Growth of urban employment was less dynamic from 1980 to 1985 due to the general sluggishness of national and international economies. Even so, urban employment accounted for 19 per cent of the total in 1980 and 22 per cent in 1985, and the 3.8 million new urban jobs represented 34 per cent of the total increase for the 1980-85 period.

Other urban "pull" factors also operate to promote urban growth. Education facilities above the primary level are still heavily concentrated in urban areas. Hence, in 1985 about 31 per cent of the over-five population were recorded as living in urban areas, but 38 per cent of lower secondary and 54 per cent of upper secondary pupils were studying in urban areas. Of course, this varies substantially among provinces, especially for upper secondary school attendance. In several provinces, 60-80 per cent of the upper secondary school-going population are attending school in urban areas.

Medical facilities and health services also tend to be better and more accessible in urban than in rural areas. While serious efforts have been made to provide the rural population with basic health services, primarily through the sub-district community health centres (*Puskesmas*) and village integrated health posts (*Posyandu*), hospitals are located mainly in towns and cities, as are most dispensaries (*apotik*) and other facilities. Of approximately 20,000 physicians in Indonesia, about 30 per cent live and work in Jakarta alone. The very substantial role of the private sector in the provision of health services (accounting for about 64 per cent of total health expenditure in 1982/83) probably also contributes to the urban concentration in the health sector.

Little information is readily available on the overall urban pattern in Indonesia, or on the characteristics of specific cities or urban areas. Survey and census tabulations are routinely broken down by "urban" and "rural", but for many purposes this dichotomy is too general to be useful. The chief source of detailed urban data in comparatively recent years is the National Urban Development Strategy (NUDS) study carried out by the Department of Public Works.

According to this study there were 384 urban places in Indonesia with a population of 10,000 and above in 1980. Table 2.2 shows their distribution by size and location. Sixty-two per cent are located on the island of Java, also that island's share of the total population. As is shown in Table 2.3, a third of the country's total urban population live in the four metropolitan cities of a million or more, and an additional 22 per cent live in places of between 200,000 and 1 million.

Considering the great differences in geography, population, land area, economic conditions, and socio-cultural patterns which characterize the various islands and island groups, urban distribution seems remarkably uniform. Growth rates among groups of cities 100,000 and larger are also quite similar with increases in all categories ranging between 4.1 per cent and 4.4 per cent per annum.

At 26 per cent, Indonesia's level of urbanization is rather low by international standards (Table 2.4). For all lower-medium income countries (World Bank classification) this was 36 per cent in 1985. As the table shows, a number of other countries--Bangladesh and Thailand, for example--had significantly lower levels (18 per cent each), but others, such as Malaysia and the Philippines, were much higher (38 per cent and 39 per cent, respectively).

* Some proportion of urban growth is also accounted for by reclassification of areas from "rural" to "urban" as a result of changed administrative status or boundary changes, but the magnitude of this factor has not been accurately determined.

Table 2.2. Indonesian Cities by Size Category and Island Location, 1980

Size Category	INDO-NESIA	Sumatra	Java	Nusa Tenggara	Kali-mantan	Sulawesi	Maluku & Irian Jaya
1 million and above	4	1	3	--	--	--	--
500,000-999,999	5	1	3	--	--	1	--
200,000-499,999	13	2	6	1	3	1	--
100,000-199,999	20	3	14	1	1	--	1
50,000- 99,999	43	10	26	2	2	2	1
20,000- 49,999	127	23	81	5	3	11	4
10,000- 19,999	172	32	106	11	8	13	2
Total	384	72	239	20	17	28	8

Source: T. Kebon Yeremias, Urbanisasi di Indonesia: Kecenderungan, Determinan, dan Kebijaksanaan, p. 14. Paper presented at the Fourth IPADI Congress, Jakarta, 14-17 January, 1988.

Table 2.3. Level of Urbanization (% living in urban areas) by Size Category and Island Location, 1980

Size category	Sumatra	Java	Nusa Tenggara	Kali-mantan	Sulawesi	Maluku & Irian Jaya	INDO-NESIA	Cumulative %
% of total population	19.6%	25.1%	12.0%	21.4%	15.9%	15.1%	22.4%	--
Urban pop. ('000)	7,117	30,315	1,299	1,847	1,936	515	43,030	--
1 million and above	23	42	--	--	--	--	33	33
500,000-999,999	14	8	--	--	39	--	10	43
200,000-499,999	12	9	22	57	13	--	12	55
100,000-199,999	9	9	17	13	--	29	9	64
50,000- 99,999	12	8	14	6	8	16	9	73
20,000- 49,999	13	11	14	7	21	27	12	85
10,000- 19,999	8	7	17	8	10	7	8	93
Less than 10,000	9	6	16	9	9	22	7	100
Total	100	100	100	100	100	101	100	

Source: T. Kebon Yeremias, Urbanisasi di Indonesia: Kecenderungan, Determinan, dan Kebijaksanaan, p. 15. Paper presented at the Fourth IPADI Congress, Jakarta, 14-17 January, 1988.

Table 2.4. Urbanization: Levels and Trends in Selected Developing Countries

	Urban population				% of Urban population	
	Per cent of Total population		Average annual Rate of growth		in largest city	in cities over 500,000
	1965	1985	1965-80	1980-85	1980	1980
Lower-Middle Income Economics	27	36	4.4%	3.7%	31	46
Indonesia	15	26		5.5	19	43
Bangladesh	6	18	8.0	7.9	30	51
Burma	21	24	2.8	2.8	23	23
India	19	25	3.6	3.9	6	39
Rep. of Korea	32	64	5.7	2.5	41	77
Malaysia	26	38	4.5	4.0	21	21
Nepal	4	7	5.1	5.6	27	0
Pakistan	24	29	4.3	4.8	21	51
Philippines	32	39	4.0	3.2	30	34
Sri Lanka	20	21	2.3	8.4	16	16
Thailand	13	18	4.6	3.2	69	69

Source: T. Keban Yeremias, Urbanisasi di Indonesia: Kecendrungan, Determinan dan Kebijaksanaan, 1988, and CBS. All other data from World Bank, World Development Report 1987.

"Primacy", the dominance of a country's overall urban structure by one or a very few large cities, is in some countries a matter of concern. Typically a primate situation indicates a high degree of concentration of services, facilities, economic activity, cultural attributes and artifacts, and other important characteristics in one city as compared to the other cities in a country.

Jakarta, with a population of 7.9 million* in 1985, is more than 3 times the size of Surabaya, Indonesia's second-largest city, and in 1985 the national capital accounted for about 19 per cent of the total urban population. Large though Jakarta is with respect to other cities and to the urban population as a whole, a 19 per cent share is rather small as compared with other developing countries. The largest cities in Bangladesh and Burma, for example, account for 30 per cent and 23 per cent of their respective urban populations, and the population of Bangkok constitutes 69 per cent of Thailand's urban total. Moreover, Jakarta's share has actually been dropping slightly, from nearly 20 per cent in 1980.

By and large, Indonesia's urban population is relatively dispersed and evenly spread among the country's major regions, as was evident in Tables 2.2 and 2.3 above. In population terms, there seems little reason for immediate concern about Jakarta becoming a primate city. On the basis of dominance in terms of facilities, services and desirable attributes, the picture is somewhat different. For example, Jakarta has one-tenth of the total private bathing facilities in the country, almost one-fifth of the private toilet facilities, and similar proportions of other household amenities, although it accounts for only 5 per cent of the total households. The city is home to a third of the persons with a per capita monthly expenditure of Rp60,000 or more, and 34 per cent of the country's passenger cars are registered there. About 32 per cent of all of Indonesia's telephones are in Jakarta (Table 2.5).

* This is the total population of the National Capital District (DKI). While SUPAS 1985 classifies about 9 per cent of DKI's population as rural, this number is probably offset by other suburban communities which are situated across the DKI boundary in West Java.

D. INCOME AND POVERTY

The number of Indonesians in poverty depends, of course, on which definition is used. Several alternatives have been proposed over the years. The one employed by the Central Bureau of Statistics is based on the money value of a diet providing 2100 calories per person per day (the Indonesian minimum standard) plus an amount representing the value of non-food necessities such as housing, clothing, school and medical expenses. In 1984 this came to Rp13,731 per capita per month for urban areas, and Rp7,746 in rural areas.

Table 2.5. Jakarta's Share* (in %) of Selected Services and Amenities, 1980 and 1985

	1980	1985
Jakarta's share of:		
Total population	4.4%	4.8%
Total urban population	19.8	18.4
Total households	3.8	5.0
Total work force	3.7	3.8
Households with:		
- private bathing facilities	9%	9%
- private toilet facilities	17	17
- with septic tank		
- piped drinking water	15	16
- electric lighting	13	14
- a TV set	18	15
- a radio/cassette recorder	6	7
Workers in:		
- professional & technical occupations	8	8
- managerial and admin. occupations	35	30
Persons aged 10 and above with:		
- lower secondary education	11	10
- upper secondary education	16	15
- post-secondary education	25	19
Persons with per capita monthly expenditure of Rp60.000 or more (1984)	n.a.	34
Junior/senior secondary schools	6/9	5/8
Dispensaries (<u>apotik</u>)	19	20
Hospitals (general and special)	14	14
Civil servants (<u>pegawai negeri</u>)	11	10
Motor vehicles	19	19
Passenger cars	35	34
Telephones	37	32

* Based on the total population of the National Capital District (DKI). See footnote, p.14.

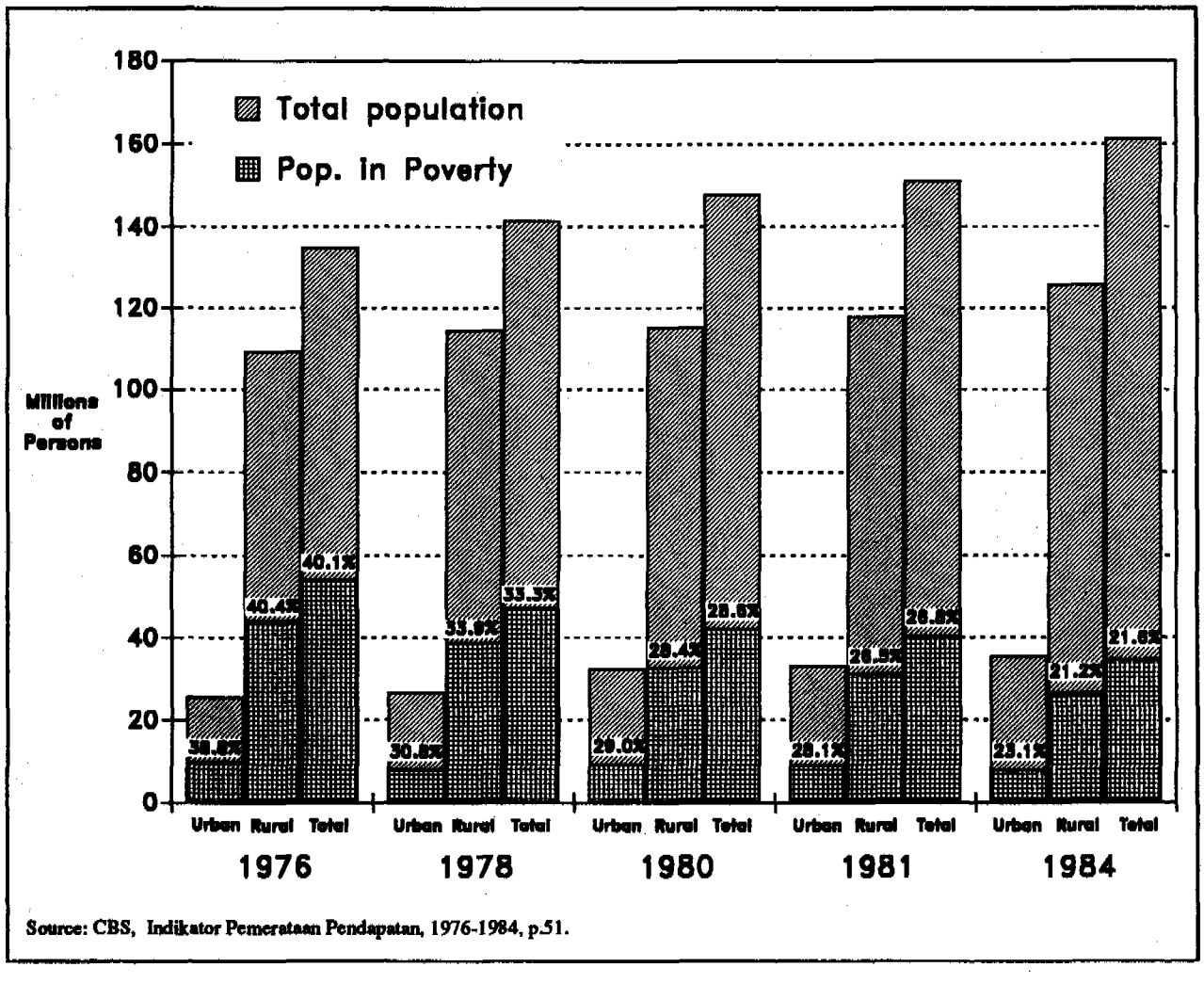
Source: CBS, Population Census 1980; SUPAS 1985 No.5; Statistical Yearbook of Indonesia, 1990/91, 1982, 1985, 1986, 1987.

The changing poverty picture between 1976 and 1984 is shown in Figure 2.1. In 1976 about 54 million Indonesians (40 per cent of the total population) were living below the poverty line. Since then, the absolute number has declined steadily, most notably in rural areas, and in 1984 stood at just under 35 million, or just under 22 per cent of the population.

As three-quarters of Indonesia's population is rural, a large majority of the poor are naturally found in rural areas. The urban proportion, however, has been increasing steadily since 1976. In that year, the 10 million urban poor represented 18.5 per cent of the total; by 1984, although the number of urban poor had declined to about 8.2 million, this number constituted 23.5 per cent of the total. Some of this shift may be due to the much faster urban population growth, but it is also clear that the incidence of urban poverty has been declining at a slower rate than in rural areas. It is possible that rural-urban migration may be transferring some of the rural poverty to urban areas. Urban poverty incidence surpassed the rural rate for the first time in 1981.

Obviously, the incidence of poverty is not equal for all educational levels, occupational groups and types of households. A recent analysis of households headed by women shows that this group, comprising more than 4 million households in 1980, has a high incidence of poverty. Table 2.6 shows how poverty is distributed according to various household characteristics, as revealed by an analysis by the Central Bureau of Statistics in 1976.

Figure 2.1. Incidence Of Poverty in Urban And Rural Areas 1976 - 1984



Source: CBS, Indikator Pemerataan Pendapatan, 1976-1984, p.51.

Table 2.6. Selected Characteristics of Poverty Households, 1976

Number of Workers in the Household					
0	1	2	3	4	>5
6%	45%	32%	11%	4%	2%

	Agricultural land (ha)				
	<0.30	0.30-0.49	0.50-0.99	1-5	>5
- owned	36%	14%	42%	8%	0%
- cultivated	29%	17%	46%	8%	0%

Educational attainment of H/H Head					
No school	Less than Primary	Primary	Lower Sec.	Upper Sec.	Acad/ Univ.
42%	34%	20%	3%	1%	0%

Source: CBS, Indikator Pemerataan Pendapatan: Jumlah dan Persentase Penduduk Miskin di Indonesia 1976-1981,1984,pp.57-64.

When broken down by occupation of the household head, 71 per cent of the poor households were farmers in 1976. Households whose heads were labourers and employees accounted for 30 per cent of all poor households; 34 per cent of poor households were headed by self-employed persons, many of them probably petty traders in the informal sector.*

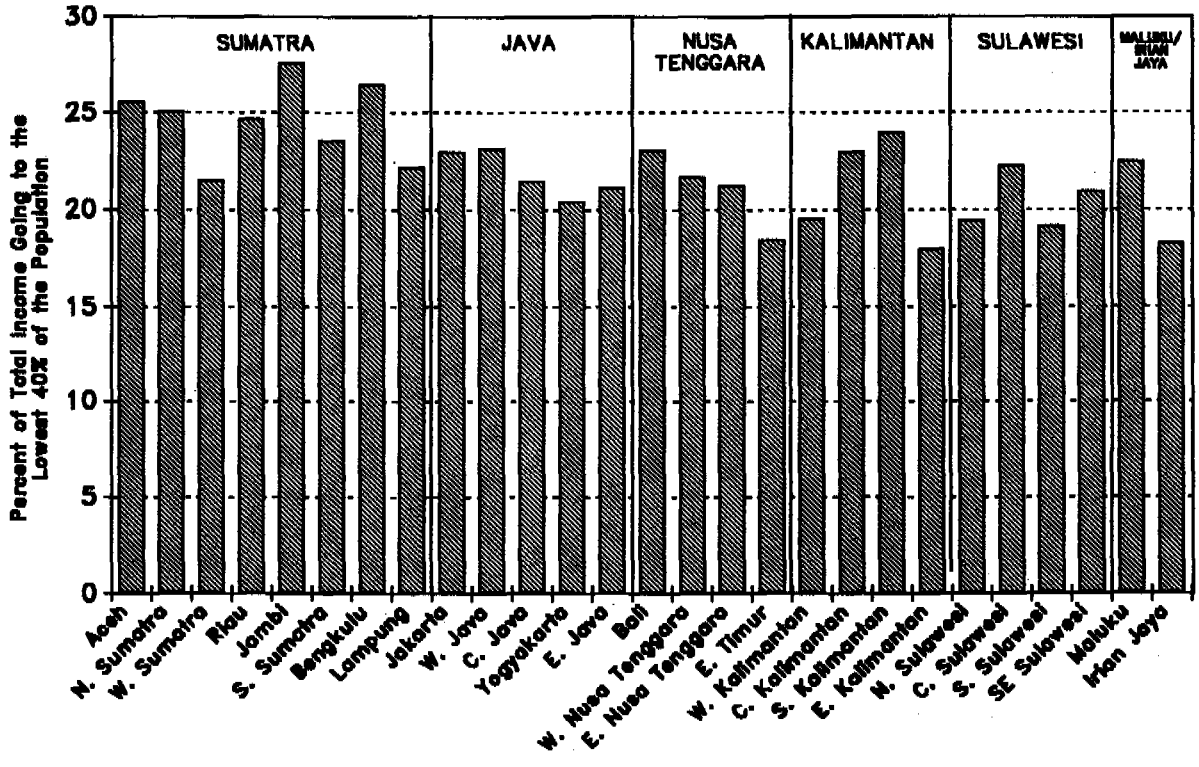
Poverty incidence is related to the distribution of income within the population. Figure 2.2 shows the variation among provinces on the percentage share of total per capita income going to the poorest 40 per cent of the population.

By this measure, income appears to be distributed most equitably on the island of Sumatra, where in half of the eight provinces the bottom 40 per cent of income earners receive 25 per cent or more of the total income. For the rest of the country, provincial figures vary fairly consistently arount 20 per cent.

Along with changes in income have come changes in expenditure patterns. Data from the 1984 SUSENAS show how households in various expenditure classes allocate their expenditure differently (Figure 2.3). The lowest income groups (below Rp15,000 per capita) spend about 70 per cent of their income on food while at the upper income levels (Rp60,000 per capita and above) food accounts for only 33-43 per cent of per capita expenditure.

* These categories may overlap to some extent, so they do not total to 100 per cent.

Figure 2.2. Income Shares of the Lowest 40 Per cent of the Population by Province, 1984



Source: CBS, Statistical Yearbook of Indonesia 1986.

E. THE ROLE OF MASS MEDIA

1. Profile of the Media

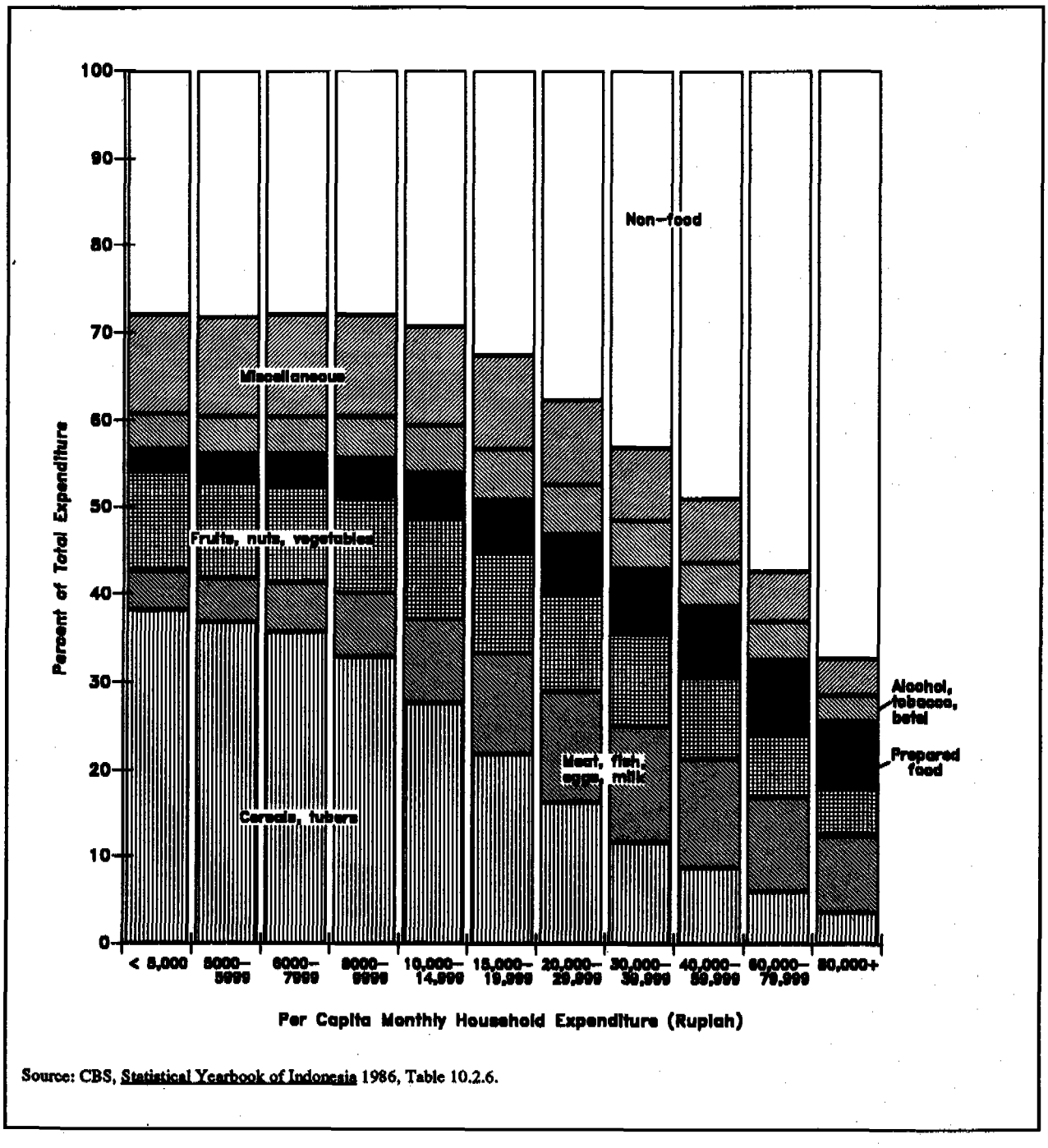
Mass media development has made great strides in recent years. With expansion of TV and radio transmitters and other technical facilities, broadcast media now reach most parts of the country. Rising average income, along with increased literacy and higher levels of education, have been important factors in generating greater demand for information and entertainment. This in turn has stimulated increased efforts at outreach, information dissemination and product promotion by the government and, particularly, the private commercial sector.

Table 2.7 gives an overview of the main media forms and their salient characteristics in Indonesia.

Television

The sole television authority in Indonesia is the state television network, *Televisi Republik Indonesia* (TVRI). From production and transmission studios in Jakarta and 9 major provincial capitals, and mobile production units in 10 other provinces, daily broadcasting time averages seven and a half hours daily, with an additional 5 to 6 hours of morning programmes on Sundays and public holidays.

Figure 2.3. Household Expenditure by Consumption Category, Urban & Rural, 1984



Source: CBS, Statistical Yearbook of Indonesia 1986, Table 10.2.6.

Programming is classified into three major categories: news and information (28 per cent of air time), education and religion (23 per cent), entertainment and culture (47 per cent) and miscellaneous (2 per cent). Development-oriented programmes produced by TVRI include news and features, talk shows, village development features, social dramas, and family health and home economics programmes. Commercial advertising is

Table 2.7. Profile of Mass Media

	Television	Public radio	Private radio	Printed media
PRODUCER:	Government: Televisi Republik Indonesia (TVRI)	Government: Radio Republik Indonesia (RRI)	National private stations, under PRSSNI District and provincial: 3,000 stations	Private
COVERAGE:	Production and transmission: - Jakarta - 9 provincial capitals - mobile production in ten other provinces	49 broadcasting stations: - 5 regional stations - 27 provincial stations - 17 district stations	20 million radio receivers	97 Indonesian dailies 65 weekly newspapers 25 bi-weekly newspapers 41 weekly magazines 21 monthly magazines Quarterlies and bulletins
	Programming: 4-11:30 PM daily Additional: 8 AM-1:30 PM on Sundays and holidays	Central and provincial broadcasting: 24 hours/day	Central and provincial broadcasting: 24 hours/day with range of about 10 km. District and local: 5 AM-1:30 AM	Total no. of publications: 7.5 million copies 30% of total (2 million) are circulated in Jakarta
	Major viewing time: 5-6 PM and 9-11:30 PM	Major listening hours: 5-6 AM and late PM hours		Each printed copy read by 5 people Total no. of publications read by 36 mil. readers
	70% of total land area All of Java and Bali Most of Sumatra Areas around major cities on other islands			
	Provincial television: shares 1 1/2 hours of air time with national TV			
LANGUAGE:	National: Bahasa Indonesia Provincial: Local language	National: Bahasa Indonesia Provincial: local language	National: Bahasa Indonesia Provincial: local language	
FINANCIAL SUPPORT:	Government revenues Tax revenues from TV owners	Government revenues Commercials Tax revenues from radio owners	Commercials	Advertisements, direct sales, and subscriptions

prohibited, but time slots between programmes are used for spots and fillers, usually stills (studio cards), containing public service announcements and development messages. The use of film spots is still very limited.

Provincial TVRI stations produce locally-oriented news, information, entertainment and cultural programmes. Some of these productions, such as plays and cultural performances (e.g.,*wayang*) are presented in local languages. A daily average of one and a half hours of air time is devoted to locally-produced programmes.

Television broadcasting reaches approximately 70 per cent of Indonesia's total territory (all of Java and Bali, most of Sumatra and areas surrounding major cities on the other islands), but in many provinces viewership is limited mostly to urban and semi-urban areas. National statistics (fromSUPAS 1985) show that television ownership is far higher among urban than rural households (48 per cent and 9 per cent, respectively). Data from a commercial media survey* show that 72 per cent of the urban households in 8 major cities have TV. For rural areas surrounding the survey cities, from 9 per cent (near Semarang) to 26 per cent (Bandung) of the respondents reported watching television at home. Prime viewing hours are between 5:00 and 6:00 A.M. and from 9:00 to 11:30 P.M. A cable television system is presently under development, and is expected to begin broadcasting to paid subscribers early in 1989. This service will be limited, however, to Jakarta and surrounding areas.

Radio

Radio broadcasting, unlike television, is not a government monopoly. Apart from the state radio network, *Radio Republik Indonesia* (RRI), there are numerous private radio stations, organized under the Association of Private Radio Stations (PRSSNI).

RRI itself has 49 broadcasting stations, consisting of five "*Nusantara*" or regional co-ordinating stations, 27 provincial stations and 17 district stations. The central station in Jakarta and the *Nusantara* and provincial stations are on the air 24 hours a day, while other stations usually broadcast only from 05:00 A.M. to 01:30 A.M. Unlike TVRI, RRI is allowed to air commercials. Along with the users' tax paid by radio owners, commercial advertising accounts for a significant portion of RRI's total revenue. While the national radio service uses the national language, provincial services broadcast in local languages and may thus achieve larger audience shares.

RRI also has a rural broadcasting network, with about 54,000 village-level listeners' groups in 26 provinces. These groups monitor and discuss programmes transmitted by the rural broadcasting network and try to apply the information to development activities in their local communities. Eighty per cent of network air time is devoted to agriculture and crop production, news and features. Less than 10 per cent of air time is allocated to health and related issues.

In addition to RRI, there are more than 3,000 private radio stations in the country. Their range is usually limited to a radius of 10-15 kilometers from the transmitting station; and as these stations are normally located in the larger towns, they effectively serve a mainly urban or semi-rural audience. In the aggregate, these private stations have a very large listening audience and derive their income entirely from advertising revenues. Local radio broadcasting is in fact a major medium of sales promotion for food products, pharmaceuticals, cosmetics and other household items. Private radio stations thus capture a substantial share of the country's total advertising revenues.

The main strength of private radio stations is that they are able to cater to the needs of local communities, in part by using local languages in many of their programmes. The mainstay of their programming is entertainment (music, soap operas, etc.); they do not produce news reports, and are in fact required to relay RRI news programmes. Since very few of the private radio stations have professional production facilities,

* Survey Research Indonesia. The *Media Index Survey* covered residents of eight cities (Jakarta, Surabaya, Medan, Bandung, Semarang, Ujung Pandang, Palembang and Pontianak) and (except for Jakarta) their rural hinterlands. Results were tabulated separately for these urban and rural populations. These findings cannot, of course, be extrapolated to all urban and rural areas of the provinces where the survey was conducted.

they usually rely on commercial production houses which provide programme packages on a subscription basis. The Association of Private Radio Stations has established a production centre in Jakarta to develop and distribute programmes of common interest to member stations. This centre has been used to produce public service and development programmes from the National Family Planning Co-ordinating Board (BKKBN) and other government agencies.

There are approximately 20 million (est. 1986) radio receivers throughout Indonesia. Radio broadcasts encompass virtually the whole country and its entire population. Listenership is highest in the early morning and in the late afternoon and evening.

Printed Periodicals

There are 97 newspapers published daily in Indonesia, in addition to 65 weeklies and 25 bi-weeklies. Forty-one weekly and 21 monthly magazines are also published, plus an assortment of quarterly magazines and bulletins. Altogether, these publications account for over 7.5 million copies of printed material. The government estimates that each copy is read by an average of 5 persons; thus, all print media reach about 38 million readers.

The major Indonesian language dailies, including *Pos Kota, Kompas, Suara Pembaruan, Suara Karya* and others, have a maximum circulation of about 550,000. The three English dailies, *Jakarta Post, Indonesia Times*, and *Indonesian Observer* are all published in Jakarta and have circulations ranging from 5,000 to 40,000. Numerous regional dailies are published in the larger provincial cities. Circulation is normally in the 25,000-50,000 range for the regional papers, though in a few cases--*Pikiran Rakyat* (West Java) and *Suara Merdeka* (Central Java), for example--it may reach 135,000 or more.

Three of the largest magazines are *Kartini, Sarinah* and *Femina*, all women's magazines with a circulation of more than 100,000. *Tempo*, a newsweekly, has a circulation of about 120,000; other major magazines include *Trubus* (agriculture), circulation 45,500, and *Prisma* (general development topics), circulation about 15,000. *Prisma* also publishes an English-language version on a quarterly basis with a circulation of 6,000 copies.

Numerous children's magazines published in Jakarta and the provincial capitals are an important source of information and entertainment for children and are very popular. In many cases they are sold through schools. *Bobo*, the largest child-oriented periodical, has a circulation of about 150,000.

A number of local language publications are produced specifically for particular ethnic groups. These are usually published in provincial cities, but their subscribers include members of ethnic groups living in other provinces. The best-known among these are *Panyebar Semangat* (Javanese, published in Yogyakarta) and *Mangle* (Sundanese, published in Bandung).

Through a government-sponsored programme called *Koran Masuk Desa* (KMD), literally meaning "the newspaper enters the village", a number of provincial dailies have a special supplement covering village-oriented news and reports, including a few columns in local languages. At present 51 papers in 23 provinces have these village editions. The most successful of these have been *Pikiran Rakyat Cirebon, Bali Post* and *Banjarmasin Post*, each producing upwards of 15,000 copies of the village editions.

The effectiveness of the KMD programme in strengthening and broadening the outreach of printed media has been mixed. The number of readers remains very small in comparison to the size of the target group, and general observation suggests that the supplements are read mainly by village elites. Considerable potential does appear to exist, however, if it could only be more effectively tapped.

2. Media Preferences and Habits

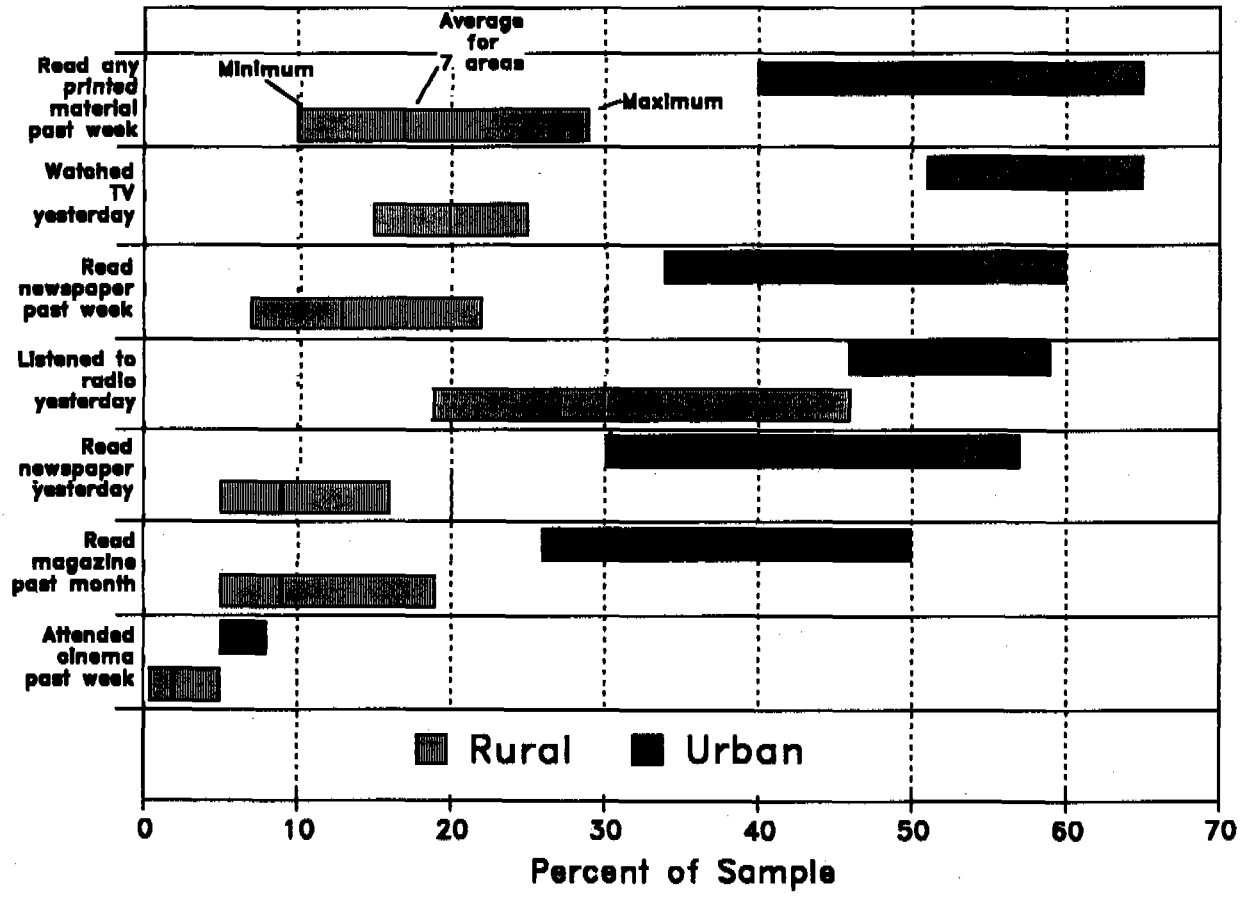
The general pattern of Indonesians' media habits, as revealed by the *Media Index Survey* in 1986, is shown in Figure 2.4. That urban residents are much more exposed to mass media is evident. The proportions of the adult population who use the media are 20 to 40 points higher in urban than in rural areas. The only exception is cinema attendance, which is very low in both urban and rural areas; attendance levels are still higher in urban areas, but not by such a wide margin as for the other

media. The disparity is most evident in the use of printed material. For example, the urban percentage reported reading a newspaper the previous day is more than 5 times the rural level; 59 per cent of the urban respondents reported reading some form of printed material during the past week, while among the rural population the rate is less than a third of that, or about 17 per cent.

Radio is the most popular form of mass media for rural residents by a large margin. Almost 30 per cent of the surveyed population had listened to radio on the previous day, as compared to television with 20 per cent and daily newspaper readership at less than 10 per cent.

There are also wide geographic variations in mass media habits, slightly more pronounced in cities than in surrounding rural areas but apparent in both. The inter-city range is widest for printed media: 57 per cent of Jakarta adults reported reading a daily newspaper the previous day, but only 30 per cent in Pontianak; 50 per cent in Bandung read a magazine during the past month, 26 per cent in Palembang. Among rural respondents, only 5 per cent near Semarang and Ujung Pandang reported reading the daily paper the day before, whereas 16 per cent in Bandung did so. Rural Bandung also has very high radio listenership (46 per cent) as compared to rural Pontianak with only 19 per cent.

Figure 2.4. Media Exposure In Selected Rural And Urban Areas, 1986
Minimum, Maximum and Average Use of Various Media in 7 Rural Areas and 8 Cities



Source : Survey Research Indonesia, Media Index Survey, 1986/87.

Among the eight cities and seven rural hinterlands covered by the *Media Index Survey* Jakarta and Bandung tend to have the greatest media exposure, particularly to printed media. Pontianak and Palembang residents read much less, though both cities have average or above average exposure levels for cinema and the broadcast media. In the rural hinterlands, Pontianak and Palembang are about average for printed media, while Semarang is lowest in several of these categories. As in Bandung proper, residents of this city's rural hinterland tend to score high on printed media use, and have the highest levels of TV and radio exposure as compared with other rural areas.

Literacy is obviously the major factor influencing the utilization of print media. According to a nation-wide population survey, about 23 per cent of adults (age 15 and above) were illiterate in 1985. The media survey found a smaller percentage than this--11 per cent--in its eight-city sample. Surabaya (16 per cent), Semarang (17 per cent) and Pontianak (22 per cent) had the highest illiteracy levels.

The rural component of the media survey did not obtain data on literacy among respondents, but it did ask about languages spoken in the home. This revealed another serious obstacle to mass communication: only in a relatively small proportion of homes is *Bahasa Indonesia* spoken as the main language. Among households surveyed, Pontianak (20 per cent) and Medan (18 per cent) had the highest rates of Indonesian language use at home. In the other 5 areas, the proportion ranged between 0 and 8 per cent. *Bahasa Indonesia* is much more common as a second language; it is spoken and understood in about 75 per cent of the households surveyed as compared to an estimated 81 per cent nationally. Surabaya (59 per cent) and Semarang (47 per cent) are unusually low on this characteristic, and Palembang, with 88 per cent, is considerably higher than average. Since the language used by the mass media, particularly television and printed materials, is predominantly *Bahasa Indonesia*, the fact that a significant segment of the population may not feel fully comfortable in this language, especially in its written form, may hinder effective communication. This may account for some of the relatively low levels of reading in many areas, and for the popularity of radio programmes in local languages.

The media survey also indicated significantly different patterns of media use among various social and economic groups. As Table 2.8 shows, adult males are more exposed to mass media than females, the young more than the old, and the well-to-do more than the poor.

This pattern holds for all types of media in both urban and rural areas (Table 2.9). Among groupings by sex or age of the respondent and monthly household expenditure, the disparity in media exposure is generally greatest between high and low expenditure households and least between men and women. For urban daily newspaper readership, for instance, respondents from higher-income households reported reading yesterday's paper nearly twice as frequently as low-income respondents. Younger respondents (ages 15-29) read about 1.3 times as often as those 30 and above, and the male daily newspaper readership level is higher than the female rate by a factor of nearly 1.5 to 1. Urban residents typically use all media at 3 to 4 times the rate of nearby rural residents. The differences are least for radio listening and greatest for reading, especially daily newspaper reading. This suggests that *media access*, which as noted earlier is much higher in urban places, may be a factor favouring media utilization, as well as the broader differences--literacy rates, educational and other facilities, higher average income, etc.--which distinguish cities from rural places. There are also significant differences in media patterns and intensity of use among individual cities and rural areas. In general, the rural areas surrounding the survey cities are more similar in terms of media use than the cities themselves. This is shown by the length of the horizontal bars in Figure 2.4 above, which indicate the high and low values for all cities and all rural areas.

Poorer households are especially disadvantaged with respect to printed media, particularly in rural areas. For all the print media categories presented in Table 2.9, higher expenditure rural households are shown to read 3 to 4 times as much as the lower expenditure group. The pattern is similar, though much less pronounced, in the cities, where high and low expenditure households differ by a factor ranging between 1.70 and 2.18. The young and old differ most in cinema attendance and magazine readership, in both urban and rural places. Media habits among males and females tend to be fairly similar in the urban population, the most notable exception being cinema attendance. The picture is quite different in rural places: men were found to read two or more times as much as women, except in the magazine category, and attend the cinema three times as frequently.

To some extent, access may account for the very large media gap between urban and rural areas. As noted above, television in some of the more remote provinces--Irian Jaya, much of Sulawesi, West Nusa Tenggara, East Nusa Tenggara--is available only within a relatively limited radius of the larger cities and towns, and ownership of a television may be beyond the reach of

Table 2.8. Differentials in Media Exposure Among Selected Socio-Economic Groups

	Urban						Rural							
	Sex		Age		Hhld. Expend.*		Sex		Age		Hhld. Expend.			
	M (%)	F (%)	15-29 (%)	30+ (%)	Hi (%)	Lo (%)	M (%)	F (%)	15-29 (%)	30+ (%)	Hi (%)	Lo (%)	Urban (%)	Rural (%)
Attended cinema past week	9	4	9	3	8	5	3	1	4	1	4	2	6	2
Read magazine past month	40	33	47	25	48	22	11	7	15	4	28	7	36	9
Read daily newspaper yesterday	58	40	55	42	62	32	13	5	12	6	28	7	49	9
Listened to radio yesterday	53	47	59	40	52	47	33	28	40	23	36	27	50	30
Read any newspaper past week	65	45	63	46	68	37	18	8	19	8	35	11	55	13
Watched TV yesterday	59	52	60	51	64	45	25	15	24	17	46	17	56	20
Read any printed material past week	68	51	69	49	73	43	22	11	26	11	43	14	59	17

* Households with monthly expenditure of Rp.100,000 or more are classified as high.

Table 2.9. Media Exposure Ratios for Sex, Age and Household Expenditure Categories and for Place of Residence

	Urban			Rural			
	Sex	Age	Hhld. Expend.*	Sex	Age	Hhld. Expend.	
	M:F	15-29:30+	Hi:Lo	M:F	15-29:30+	Hi:Lo	Urban:Rural
Cinema past week	2.25	3.00	1.60	3.00	4.00	2.00	3.00
Read magazine past month	1.21	1.88	2.18	1.57	3.15	4.00	4.00
Read daily newspaper yesterday	1.45	1.31	1.94	2.60	2.00	4.00	5.44
Listened to radio yesterday	1.13	1.48	1.11	1.18	1.74	1.33	1.67
Read any newspaper past week	1.44	1.37	1.84	2.25	2.38	3.18	4.23
Watched TV yesterday	1.13	1.18	1.42	1.67	1.41	2.71	2.80
Read any printed material past week	1.33	1.41	1.70	2.00	2.36	3.07	3.47

* See footnote, Table 2.8.

most households, particularly in rural communities. Distribution of print media, especially on a daily basis, likewise favours urban residents. Radio access, on the other hand, either through the RRI national network or via the many private stations scattered throughout the country, is probably very close to universal. Here, too, however, the variety and quality of programming would be greater in most urban areas.

3. Uses of Mass Media in CSD

Mass media offers a strong potential for increasing the awareness of CSD. Broadly speaking, all forms of media have been under-utilized to date. The use of familiar models for TV programming has been very effective in a few cases, for example the highly successful *Ria Jenaka* comedy show and the *Si Unyil* puppet show. Each weekly 20-minute episode of *Si Unyil* tackles a national problem or offers a practical lesson to young Indonesians. Market surveys indicate that the coverage of these programmes have reached around 70 per cent in some areas.

TVRI has also produced bi-monthly and quarterly health programmes, but expanding the role of television in this area has been constrained by a lack of programme material suitable for this medium.

Radio coverage of CSD is growing though still far from its potential reach. During specific campaigns, spots and programmes on CSD issues are more frequent. As with television, much more of the potential of radio could be realized if materials were more effectively developed and used. The Rural Broadcasting Network of RRI once had a regular daily health programme which floundered due to a lack of programme materials. Increased efforts are being made to expand the role of radio in giving greater exposure to child survival and development.

The print media have provided considerable coverage of issues related to child survival and development, especially when linked to special events like National Children's Day. Media workshops and seminars are gradually improving the quality and depth of printed media coverage. Surveys indicate a marked improvement in accuracy of reporting and use of data. The development and distribution of guidelines for family health and welfare programmes is helping to improve the quality of CSD coverage in the printed media. Besides newspapers and magazines, posters--especially those placed in strategic locations in villages--have been found very effective in disseminating messages. The popular "Two are Enough" (*Dua-Cukup*) family planning posters are regularly encountered along thoroughfares in urban and rural areas throughout the country.

Traditional media in the form of puppet programmes, traditional dramas and poetry sessions are also popular media forms that can be useful in disseminating messages to a wide and receptive audience. Sermons broadcast over loudspeakers from local mosques capture a wide audience and often discuss family welfare.

F. NON-GOVERNMENTAL ORGANIZATIONS

Non-Governmental Organizations (NGOs), including international NGOs, play an important role in the mobilization of community energies directed toward improved CSD. Their contribution to the successful implementation of national development has been widely recognized.

Whether or not people take advantage of health services depends to a great extent on the social and cultural context into which they are introduced. NGOs can be instrumental in adjusting the attitudes and practices of parents so that health services are optimally used. NGOs can also be of enormous benefit in participating in communication activities that help deliver health messages to the critical audience. They are able to mobilize community participation, as well as extend programme outreach through their communications networks which often cover areas beyond government facilities. They can effectively educate people about the importance of a particular health practice, help to overcome misconceptions that discourage its widespread practice, and explain where and when services are available.

Non-Governmental Organizations in Indonesia can be divided into three categories based on the following capacities in:

(1) Service delivery :

These NGOs have physical facilities and outreach, e.g., hospitals or clinics run under their co-ordination. Among others, the following organizations provide direct health services to the people :

- PKBI (Indonesian Planned Parenhood Association)
- PKU *Muhammadiyah* (Public Welfare Assistance of *Muhammadiyah*)
- PELKESI (Indonesian Christian Helath Services Association)
- PERDHAKI (Indonesian Catholic Health Association)
- RS *Islam* (Islamic Hospitals).

(2) Mobilization and increasing awareness :

There are about 3,000 NGOs with membership ranging from 50,000 to 6,000,000. These NGOs have extensive networks--often with schools and non-formal education institutions as their major base--which focus on motivation and reaching the lowest socio-economic groups. This category includes :

- GUPPI (Federation for Islamic Education Improvement)
- *Fatayat Nahdlatul Ulama* (Young Women's Group of the Organization of Moslim Scholars)
- WKRI (Indonesian Catholic Women's Council)
- PWSHD (*Hindu Dharma* Women's Council)

Some NGOs have both means to motivate and facilities for service delivery. They include :

- PKK (National Family Welfare Movement)
- *Aisyiyah* (Women's group of *Muhammadiyah*)
- *Perwari* (an Independent Women's Organization)
- *Muhammadiyah* (Muslim Social Welfare Organization)
- PGI (Indonesian Church Association)

(3) Technical Support :

These NGOs have qualified professional staff for implementing research, developing and field-testing curricula, modules and media for training :

- *Bina Desa* (Village Development)
- *Dian Desa* (Appropriate Technology Group)
- LP3ES (Institute for Social and Economic Research)
- *Yayasan Melati* (Management, training and research foundation related to women in development)

The majority of NGOs are women's and religious organizations. Women's organizations, which have been very active in social development activities aimed at improving family and community welfare, are discussed in more detail in Chapter V.

Tens of thousands of religious NGOs exist in almost every urban *kampung* and sub-village in the form of local councils and study groups. Many *yayasan* (foundations) and charity organizations operate at the local level.

NGOs dealing with environment issues are grouped under an umbrella organization called WALHI (Indonesian Environment Forum).

The term *organisasi sosial* applies to NGOs whose activities are limited to social welfare activities. This category includes special foundations--often referred to as *Lembaga Swadaya Masyarakat* (Community Self-Help Organizations)--and social institutions which care for disabled and neglected children, as well as undertake skill training, income generation, appropriate technology and other developmental activities at community level. Many of these organizations are co-ordinated by a province-based agency called BK3S (Co-ordination Board for Social Welfare Activities), which channels government funds for these social organizations.

Research NGOs are involved in basic research and developmental activities, making them valuable partners for the implementation of CSD programmes.

There are several international organizations operating in Indonesia in areas which are very relevant to CSD, from primary health care, rural water supply and family nutrition to non-formal education, appropriate technology and women's activities. While the smaller ones limit their operations to just a few provinces, the larger ones like CARE, Christian Children's Fund and Catholic Relief Services have wider coverage. With their heavy emphasis on the well-being of families and thus child survival and development, international NGOs can be excellent partners for consultation and complementarity.

G. ECONOMIC ADJUSTMENTS DURING THE 1980s

Since international oil and commodity prices began to fall in the early 1980s, Indonesia's economy has encountered a declining external economic environment which continues to have significant consequences for Indonesia. One of the most severe aspects of this situation has been the almost 50 per cent decline in Indonesia's earnings from crude oil since 1985/86 as a consequence of the fall in world market prices from an average of US$25 per barrel to US$13 per barrel. When combined with the drop in earnings from other export-oriented commodity products, the loss of these revenues resulted in a 34 per cent deterioration in Indonesia's terms of trade. As a result, along with the weakening of the US dollar, Indonesia's total debt service ratio rose to 37 per cent in 1986/87.

The government has marshalled a series of well-balanced and rapid responses to the economic challenges of the 1980s. By 1985/86, the government's initial efforts to respond to the first round of declining oil prices had restored the macro-economic stability of the country. However, a second, sudden and more drastic decline in oil prices in 1985/86, which could not have been foreseen, required another major series of adjustment measures and structural reforms in order to maintain the balance of payments, ensure fiscal stability, reduce the economy's dependence on oil revenues, and control or limit other accompanying problems such as the approximately 5 per cent decline in national income, reduction of per capita real national income by about 7 per cent, and a 9 per cent rise in consumer prices.

The government's responses to the economic problems of the 1980s can be summarized as:

- Austere budgets for the 1985/86 to 1989/90 fiscal years, which represents an important use of fiscal policy to help restrain excessive economic activity in the short term;
- Devaluation of the Rupiah by 28 per cent in March 1983 and by 31 per cent in September 1986 which contributed significantly to the process of structural adjustment in the balance of payments;
- Structural reform measures which *inter alia*, strengthen trade policy by simplifying import licensing requirements to provide internationally priced inputs to exporters and reducing industrial licensing requirements in order to stimulate growth in the domestic manufacturing sector.

Some of the specific kinds of restructuring policies relevant for improved economic growth in the late 1980s and early to mid-1990s which the government is pursuing include:

- Implementation of policies designed to stimulate efficient and more diversified agricultural growth;
- Industrial and trade policies which encourage development of efficient and more export-oriented industrial products which also foster labour intensive production patterns;
- Focusing public expenditure on labour intensive programmes;
- Continuation of a tolerant attitude toward urban informal sector activities such as street vendors and cottage-industry level producers.

As the experience of the 1980s is vividly demonstrating, Indonesia's economic fortunes are very interdependent with the conditions of the world economy, particularly for oil and primary commodities. Hence, if international oil prices can average between US$16 and US$18 per barrel through 1990 and then rise to US$25 per barrel by 1995, this would aid Indonesia's prospects for improved economic growth, even though oil prices at US$25 per barrel would be less than one-half of the peak levels achieved in the early 1980s.

In addition, the international market conditions for many of Indonesia's primary exports in the medium term outlook are still uncertain. In contrast, however, there is a potentially more favourable outlook in international conditions for a range of manufactured items provided that global economic growth recovers and world trade is not restricted by growing protectionism. In addition, there are bright hopes for vastly improved agricultural development opportunities because Indonesia's relatively low labour costs, fertile soil, varying

agroclimatic conditions and access to uncultivated land provide the opportunity to be potentially competitive in the world market across a wide range of crops.

H. GOVERNMENT EXPENDITURES AND DEVELOPMENT INDICATORS

Development expenditures are based on State Policies (GBHN) set out in the Five-Year Development Plans (Repelita) which are aimed at equitable distribution of development activities and benefits, economic growth and political stability.

Despite substantial progress during the 1970s and the first half of the 1980s, Indonesia still ranks at or near the bottom on most development indicators when compared with other ASEAN countries, and although Indonesia experienced rapid and sustained economic growth until 1986, per capita income remains well below the ASEAN average. Unemployment, and particularly under-employment, is high; given the present economic situation--and with about 2 million people joining the labour market each year--employment creation is of critical importance. Mortality rates for infants and children are still the highest in the ASEAN region, and life expectancy at birth, although rising, is the lowest among the member countries. Several selected development indicators for Indonesia and other ASEAN members are given in Table 2.10.

As Table 2.11 shows, Repelita IV development expenditure is larger in total than expenditure in previous Repelitas, despite the sharp declines from 1985 onward. Development funding in the education sector grew substantially in proportional terms between 1974 and 1988, while health expenditure remained constant as a share of the total.

I. HEALTH EXPENDITURE: PATTERNS AND TRENDS

1. Service Delivery

Comparatively little is spent on health care in Indonesia. Total public and private outlay was estimated at Rp14,561 per capita in 1986/87--the equivalent of about US$8.90, of which about US$3.20 is in government spending.

Public health expenditure by the Department of Health has remained relatively constant at about 1.5 per cent of the total central government budget since the mid-1970s (Figure 2.5), as compared with 3.5 to 7.0 per cent in other countries of South and Southeast Asia--Burma, Sri Lanka, Thailand, Philippines and Singapore. Total health outlay, both public and private, has been declining in recent years as a share of GNP: 2.7 per cent in 1982/83, 2.3 per cent in 1984/85, 2.2 per cent in 1986/87.

Public expenditure represents only about 30 per cent of this total. The largest share of public sector spending is channelled through the Department of Health and the INPRES programme, with smaller but roughly equal amounts (12-18 per cent) from provincial and district budgets and state enterprises (mostly pharmaceutical companies). In addition, around 5 per cent is derived from non-Department of Health government sources (e.g., military hospitals) and a similar proportion from foreign assistance (Figure 2.6). It should be noted that a significant share of the provincial and district contributions originate from the central government in the form of budgetary allocations to sub-national governments.

2. The Public Sector

The general financial crisis brought about by the sharp drop in oil prices in 1986 has had a particularly serious impact on the central health budget which finances most of the child survival components of the Indonesian health system--primarily those activities carried out by the sub-district health centres and integrated village service posts (*Posyandu*). Table 2.12 shows the changing pattern of Department of Health expenditures over the period 1982/83 to 1987/88.

Overall Department of Health expenditure was reduced by 16 per cent between 1982/83 and 1987/88, and by 26 per cent in the 2 years between 1985/86 and 1987/88. Expenditure reduction for all non-health sectors during the same period was about 8 per cent. As the table shows, the most drastic cuts have been made in the development budget, which covers the great majority of preventive health and CSD programmes.

Table 2.10. Selected Development Indicators for ASEAN Member Countries*

	Indonesia	Malaysia	Philippines	Singapore	Thailand
Child Population and Health Status					
% pop. under 15 years**	41	39	42	26	39
Infant mortality per 1000 live births (1986)	76	27	46	9	41
Life expectancy at birth (1986)	56	68	63	73	64
Income					
Per capita income	$530	$2,000	$580	$7,420	$800
Average annual growth in per capita GNP, 1965-80 (%)	4.8	4.4	2.3	7.6	4.0
1980-85 (%)	2.3	1.8	3.4	6.4	2.6
Public Expenditure					
Total public expenditure (US$m)	13,800	10,320	4,411	7,320	30,574
Education as % of public expenditure***	11.3	13.0	20.1	20.2	19.5
Per capita annual public expenditure on health in US$****	3.0 (1983)	31.0 (1983)	1.8 (1985)	195.0 (1985)	8.5 (1984)

* Unless otherwise indicated, data are for 1985 and are taken from UNICEF, State of the World's Children 1988.

** UNICEF, World Statistics on Children, 1987. Figures are for 1985.

*** Far Eastern Economic Review Asia Yearbook 1987. Figures are for 1985 (the figure for Thailand covers both government and private expenditures).

**** ESCAP (Bangkok), Atlas of Children in National Development, 1988.

Table 2.11. Government Development Expenditure by Sector*
(billions of rupiah)

	1974-1979 REPELITA II		1979-1984 REPELITA III		1984-1989** REPELITA IV	
	Amt.	%	Amt.	%	Amt.	%
Agriculture and irrigation	1,745.3	19	4,235.2	12	6,963.3	15
Industry, mining and energy	1,653.6	18	7,495.1	22	8,899.7	19
Transportation and communications	1,631.8	18	4,457.0	13	7,296.0	15
Regional and local development***	1,024.5	11	2,894.1	8	4,542.0	10
Public enterprises****	790.0	9	1,758.5	5	1,150.7	2
Education	758.1	8	3,397.1	10	6,084.7	13
Health and family planning	262.0	3	1,184.0	4	1,598.3	3
Others	1,261.1	14	8,708.2	26	11,037.2	23
T o t a l	9,126.4	100	34,129.2	100	47,531.9	100

Source: Government of Indonesia, Nota Keuangan dan Rancangan Anggaran Pendapatan dan Belanja Negara, 1989/90.

* Includes only development expenditure of the Central Government, which in recent years has accounted for around 55 per cent of total central government expenditures.

** Approved Budget rather than actual expenditure for 1988/89.

*** The portion of provincial and local government development expenditure financed by the central government.

**** The portion of development expenditure by Government-owned enterprises which is financed by the central government.

Faced with sharp cuts in resources earmarked for development, the Department of Health has attempted in recent years to reduce the impact on high priority primary health care programmes by adjusting allocations within the development budget itself. In 1979, for example, the combined allocations to the Directorates General for Community Health and Communicable Disease Control accounted for 36 per cent of the development budget, as against 48 per cent for hospitals. In 1986, community health and CDC received 44 per cent, and hospitals only 20 per cent. These proportional shifts, however, have not been able to prevent severe erosion in the primary health care sector. It will continue to be a major challenge to sustain momentum in preventive health and CSD programmes if total health allocations continue to decline or even if they remain at current levels.

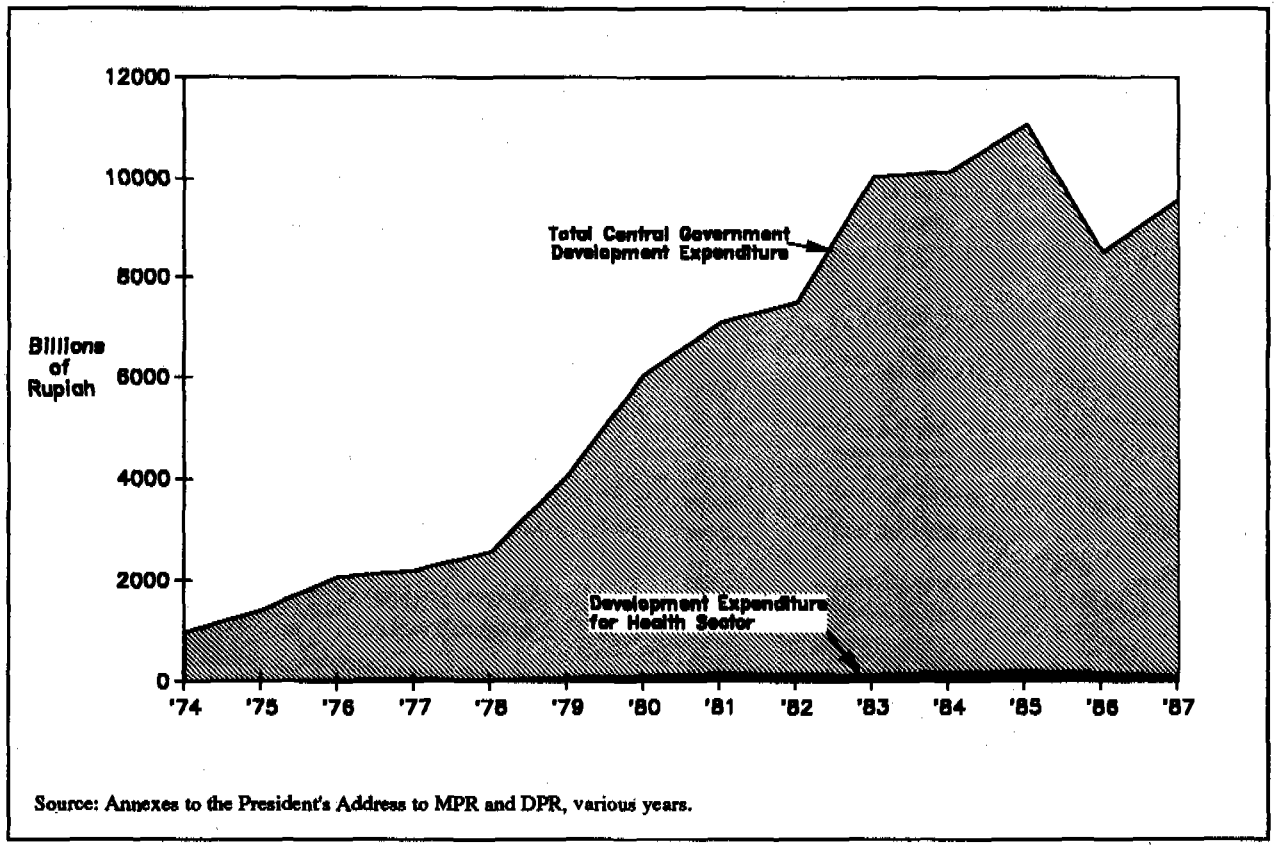
3. The Private Sector in Indonesia's Health System

Figure 2.7 shows how health resources in both public and private sectors are allocated among provider categories. Though these data are for 1982/83, the shares of government and private spending have changed very little since then, and the breakdown among specific provider categories is not believed to have changed substantially.

Hospitals, drugs and private medical practice account for a large majority of total public and private spending on health. These are primarily curative and rehabilitative categories which have relatively little impact on CSD and preventive health objectives. Three-quarters of total private sector health cost is borne directly by the consumer through out-of-pocket payment for services and drugs, just under 20 per cent is paid through employer-provided health programmes, and the remaining 6 per cent is covered by insurance. Obviously the poorest segments of Indonesian society benefit least from employer and insurance assistance, as employment among these groups tends to be concentrated in agriculture and the informal sector.

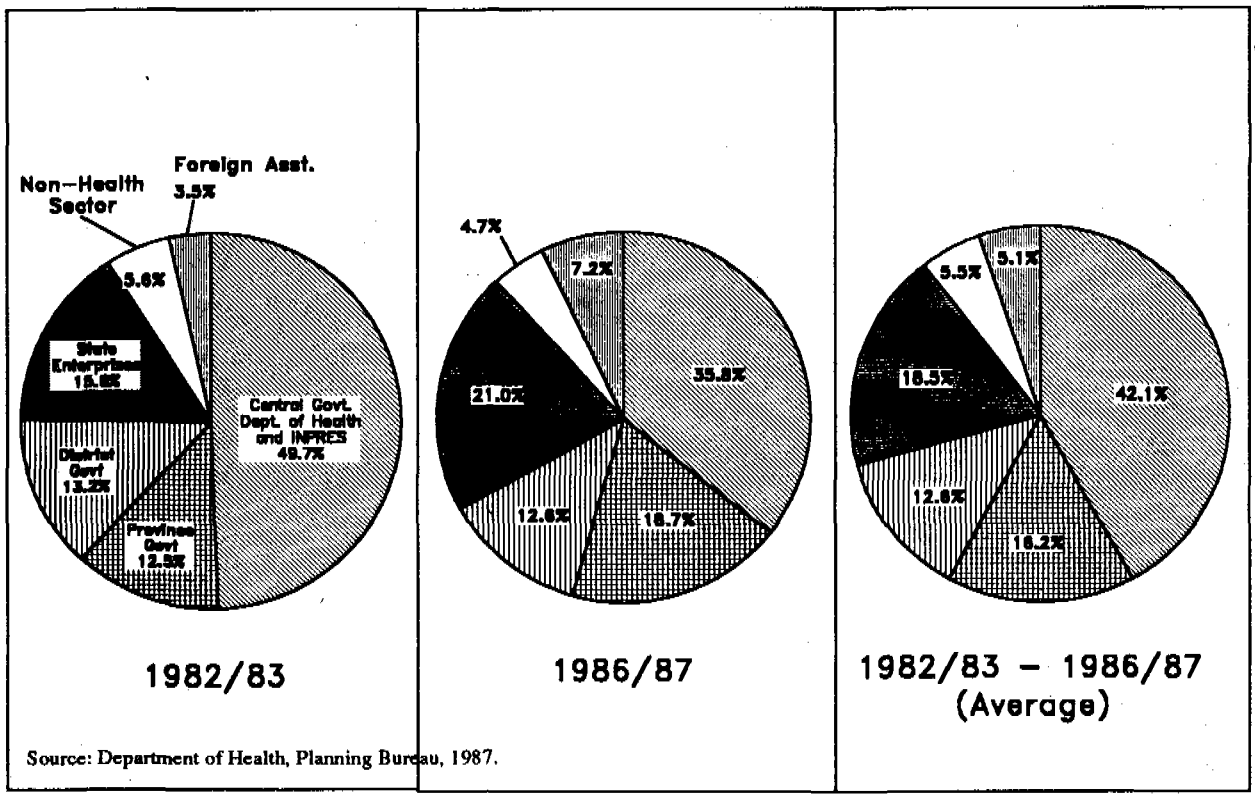
Private hospitals account for more than half of the 1,400 hospitals in the country, 31 per cent of the hospital beds and 20-25 per cent of the patient load.

Figure 2.5. Health Sector Development Expenditure vs. Total Development Expenditure 1974 - 1987



Source: Annexes to the President's Address to MPR and DPR, various years.

Figure 2.6. Public Health Expenditure By Source



Source: Department of Health, Planning Bureau, 1987.

Table 2.12. Trends in Central Government Health Expenditures (billions of Rupiah, in fixed 1983 prices)

	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88*	% change 1982/83-1987/88
Development	111.5	108.4	101.7	94.8	65.2	22.9	- 79.5%
Routine	78.5	82.4	93.5	116.8	138.8	140.2	+ 78.6%
INPRES (special Presidential fund)	98.4	98.4	98.4	114.6	114.6	76.2	- 22.6%
SOBO (subsidy for hosp. operation and maintenance.	6.5	8.1	8.2	9.5	9.8	8.0	+ 23%
TOTAL	295.0	297.5	301.9	335.6	328.4	247.3	- 16.2%

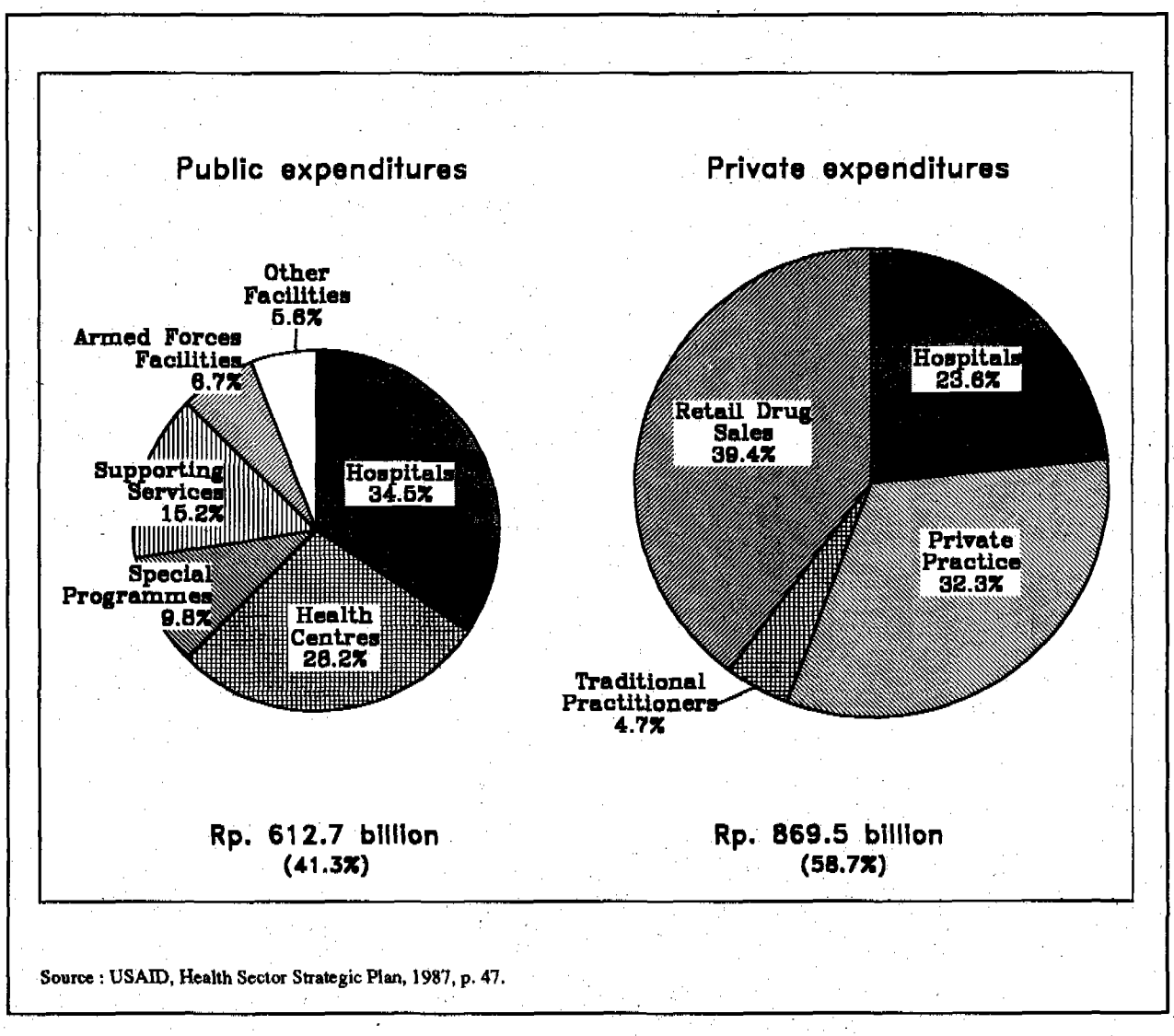
* 1987/88 figures are budget allocations; for other years they represent actual expenditure.

Source: Department of Health, Planning Bureau, 1987.

About three-quarters of the private hospitals are specialty institutions, many of them maternity hospitals.

Much of the health service at private hospitals and through medical practitioners in the private sector is provided by physicians and other medical personnel who also work in public health institutions. Of the roughly 20,000 physicians in Indonesia, most work for the government; an estimated 90 per cent of these also have a private practice. Nurses, midwives and other paramedical staff also engage frequently in private practice, particularly in rural areas. As will be seen in Chapter III, private doctors and midwives are an important source of ante-natal care and childbirth assistance in nearly all parts of the country.

Figure 2.7. Health Expenditure By Provider Categories, 1982/83



Source : USAID, Health Sector Strategic Plan, 1987, p. 47.

CHAPTER III

INFANT, CHILD AND MATERNAL WELFARE: LEVELS, TRENDS AND SERVICES

A. INFANT AND CHILD MORTALITY

1. Rates of Mortality

The estimate of infant mortality in Indonesia based on the 1985 Inter-censal Population Survey gives a rate of 71 per thousand live births. This means that IMR in 1985* was less than 65 per cent of what it was only 5 years earlier, and a little more than half of the level calculated from 1971 census data (Table 3.1).

The average rate of decline implied by the 1980 and 1985 estimates shown in Table 3.1 is 8.7 per cent per year, nearly 5 times the average annual rate from 1971 to 1980. It is commonly believed that mortality, and particularly infant mortality, will typically decline sharply from very high levels following the introduction of a few basic technological improvements--immunization, drainage of swamps and spraying with pesticide to control mosquitoes, public water and sewerage facilities, etc.--and thereafter decline more slowly once these technological "fixes" have been absorbed.

Table 3.1. Infant Mortality Rates in Indonesia, 1971-1985 (per 1000 live births)

Data source	Reference date	Urban	Rural	Total
1971 Census	1968/69	104	137	132
1980 Census	1977/78	88	112	112
1985 Inter-Censal Survey	1982/83	57	74	71

Source: CBS, Proyeksi Penduduk Indonesia 1985-2000, [illegible]

*Due to the indirect methods used for estimating the infant mortality rate, the 1985 figure actually refers to the mortality level 2-3 years prior to the population survey in October 1985, i.e., 1982/83. The same backward reference applies to the estimates based on the 1971 and 1980 censuses.

These indirect methods involve a number of basic assumptions, and the data on which the estimates are based are subject to sampling error, age misreporting and other sources of inaccuracy. As a consequence, IMR figures should not be viewed as precise measurements of mortality, but rather as the best estimates possible in the absence of a reliable vital registration system in Indonesia. Caution is particularly advisable in interpreting province-level figures.

This has not been the case in Indonesia, however, and the data in Table 3.2 clearly show that it has not been the pattern in most of Asia. Of the countries shown, the rate of decline in IMR was generally greater for the 1980-85 period than between 1965 and 1980, no matter what the initial (1965) level; and the lower the 1965 IMR level, the more rapid has been the rate of decline in both 1965-80 and 1980-85 periods. In other words, IMR reduction in the Asia region has been speeding up rather than slowing down, and Indonesia's experience is consistent with this pattern.

Despite these sharp reductions in infant mortality, however, Table 3.2 also shows that Indonesia still lags well behind many of its Asian neighbours in the level of IMR, particularly those in Southeast Asia. Indonesia's IMR has been almost double the average level in Philippines, Malaysia and Thailand since 1965. Indonesia's IMR reduction rate from 1980 to 1985 has, however, been much faster than in these countries. The major challenge in the coming years will be to sustain the momentum that has now been achieved. If this can be done, the gap which now exists between Indonesia and its closest neighbours can be gradually closed. (As of 1988, the Government estimates the IMR at 58)

The number of infant deaths implied by an IMR of 71 gives a human perspective to the statistic. Under fertility and mortality conditions prevailing in the early 1980s, roughly 5 million children were born each year, and of these about 380,000 died before reaching their first birthday. During the first half of the decade, in other words, Indonesia experienced nearly 25 million births and 1.9 million infant deaths.

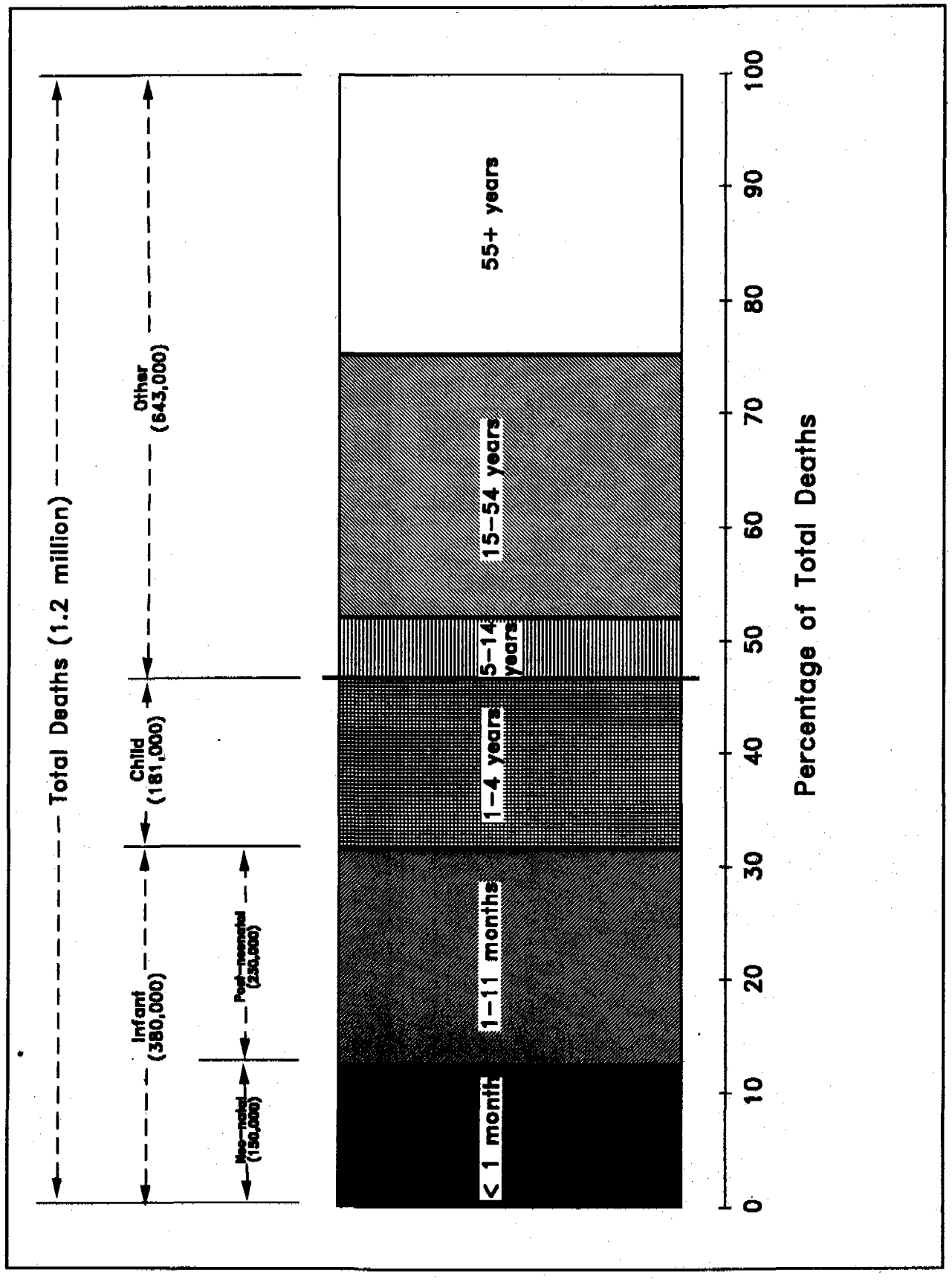
As will be discussed in more detail below, infant mortality accounts for about 30 per cent of total mortality (see Figure 3.1). The impact of IMR on life expectancy at birth is therefore relatively large. The 1985 Intercensal Population Survey (SUPAS)--based estimate of life expectancy was 57.9 years for males and 61.5 years for females, representing an increase of about 13 years since the late 1960s, and 7 years or more since the late 1970s. By comparison, Malaysia had a life expectancy of 68, the Philippines 63, Thailand 64 and Singapore 73 in 1985.

Table 3.2. Infant Mortality Rates and Annual Reduction Rates in Selected Asian Countries, 1965-1985

	1965	1980	1985	ARR* 1965-80	ARR 1980-85
Indonesia	138	112	71	- 1.4	- 9.0
Philippines	72	55	48	- 1.8	- 2.7
Malaysia	55	31	28	- 3.8	- 2.0
Thailand	88	55	43	- 3.1	- 4.8
Singapore	26	12	9	- 5.0	- 5.6
Bangladesh	153	136	123	- 0.8	- 2.0
Burma	122	101	66	- 1.3	- 8.2
China	90	71	35	- 1.6	-13.2
India	151	123	89	- 1.4	- 6.3
Nepal	184	150	133	- 1.4	- 2.4
Pakistan	149	126	115	- 1.1	- 1.8
Sri Lanka	63	44	36	- 2.4	- 3.9

* ARR = Average Annual Reduction rate, in percent
Source: World Bank. World Development Report, 1982, 1983, 1987. The 1980 and 1985 rates for Indonesia are taken from Table 3.1 above.

Figure 3.1. Distribution of Deaths by Age Group, 1985



Regional Variations

Table 3.3 shows IMR by province as calculated from the 1971 and 1980 censuses and the 1985 SUPAS. Clearly, infant mortality levels are far from uniform throughout the country. The 1985 figure for West Nusa Tenggara (112), for example, was nearly 4 times the rate of 29 in Yogyakarta.

Table 3.3. Infant Mortality Estimates by Province: 1971, 1980 and 1985

Province	1971	1980	1985	Est. infant deaths, 1985*
DI Aceh	140	94	56	5,700
North Sumatra	116	89	58	19,700
West Sumatra	157	126	78	10,100
Riau	139	113	67	5,800
Jambi	157	118	70	4,300
South Sumatra	147	100	75	14,700
Bengkulu	167	105	61	2,100
Lampung	148	98	58	12,800
DKI Jakarta	122	81	33	8,000
West Java	164	129	91	93,800
Central Java	137	91	73	57,200
DI Yogyakarta	93	55	29	2,000
East Java	117	98	75	61,500
Bali	121	88	48	3,100
West Nusa Tenggara	219	190	112	13,200
East Nusa Tenggara	147	126	74	7,800
East Timor	-	-	93	2,100
West Kalimantan	141	120	71	6,900
Central Kalimantan	123	104	61	2,400
South Kalimantan	168	126	85	6,000
East Kalimantan	100	98	50	2,600
North Sulawesi	111	96	57	4,300
Central Sulawesi	142	134	105	5,700
South Sulawesi	160	107	73	15,700
Southeast Sulawesi	164	107	82	3,500
Maluku	150	125	85	5,200
Irian Jaya	111	107	74	3,600
INDONESIA	142	112	71	379,800

* These are rough approximations derived as follows:
a) No. live births = Crude Birth Rate x (total pop./1000)
b) No. infant deaths = IMR x (live births/1000)

Source: Population from CBS, SUPAS 1985, No.5; CBR from CBS, Proyeksi Penduduk Indonesia per Provinsi 1980 - 2000, Table I, 1984; IMR from CBS, Perkiraan Angka Kelahiran dan Kematian, 1988, p.51.

These are the extreme cases, but it is worth noting that the same two provinces--Yogyakarta and West Nusa Tenggara--were the lowest and highest, respectively, in 1971 and 1980 as well as in 1985. Moreover, the relative gap between them has increased at each succeeding measurement date: the IMR ratio between the two provinces was 2.4 to 1 in 1971, 3.5 to 1 in 1980 and 3.9 to 1 in 1985.

In fact, the IMR spread among all provinces has also increased at each measurement since 1971. As measured by the coefficient of variation--the standard deviation among provinces divided by the average provincial IMR--was 0.185 in 1971, rising to 0.219 in 1980 and to 0.267 in 1985.

The provinces with the lowest IMRs in 1985 were generally those having the highest rates of decline since 1980. Jakarta, Yogyakarta and Bali, for example, the three provinces with the lowest rates in 1985, all registered a decrease of 45 per cent or more as compared with 1980. The reverse does not hold, however. Those provinces with the lowest percentage declines since 1980--Central Java, East Java, Central and Southeast Sulawesi--did not, except for Central Sulawesi, have exceptionally high levels of mortality in 1980.

It is important to bear in mind that the number of infant deaths is a function not only of the infant mortality rate, but also of the number of children born during the course of a year and thus exposed to prevailing mortality conditions. The following table (Table 3.4) illustrates this point with the provinces of West Nusa Tenggara and Yogyakarta as examples.

As the table shows, the difference in the number of infant deaths between West Nusa Tenggara and Yogyakarta is much greater than would be expected from differences in either the crude birth rate or the infant mortality rate alone, even though the total population base is nearly the same. With 3.9 times the IMR, and 1.7 times the CBR, West Nusa Tenggara has 6.6 times as many infant deaths as Yogyakarta. This is because the higher rate of infant mortality applies to a larger pool of infants who are at risk.

This deadly combination of high birth rate and high infant mortality rate is especially striking in West Java, which accounts for approximately a quarter of all infant deaths that occur in Indonesia. With a total population the size of West Java's (about 33 million in 1988), one would of course expect a relatively large number of infant deaths to occur in this province. However, Central and East Java, which are nearly as large (estimated population in 1988 of 28 million and 32.6 million, respectively), each contributes only 60-65 per cent as many infant deaths as West Java to Indonesia's total.

The difference lies only partly in the different infant mortality rates. The persistently high fertility in West Java (high according to the standard of the other Javanese provinces and of the country as a whole) is also an important factor.

Table 3.4. Effects of Both Fertility and Mortality Rates on the Number of Infant Deaths

	Population ('000)	CBR	IMR	Estimated annual: births	Estimated annual: infant deaths
West Nusa Tenggara	2,994.7	39.2	112	117,500	13,160
Yogyakarta	2,930.3	23.5	29	69,000	2,000
Ratio	1.0	1.7	3.9	1.7	6.6

CBR = Crude Birth Rate IMR = Infant Mortality Rate

Source: CBR, Population from SUPAS 1985 No. 5; CBR from Proyeksi Penduduk Indonesia per Propinsi 1980 - 2000, Table I, 1984; IMR from Table 3.3 above.

2. Major Causes of Infant Mortality

Infants under age one comprise about 2.5 per cent of the population, yet account for 27 per cent of all deaths. Table 3.5 shows the distribution of infant deaths in seven provinces according to cause, as determined by a health survey conducted in 1985/86 by the Department of Health.*

A health survey similar to the one cited above was conducted in 1980, though the 1980 sample was weighted much more heavily in favour of Java and other populous areas of the country. Comparison of mortality patterns revealed by the two studies is therefore difficult. An even greater obstacle to comparability is that in 1980

Table 3.5. Distribution of Infant Deaths (under age 1) by Underlying Cause, 1986

	% of infant deaths	Rate per 100,000 live births	Est. no. of infant deaths 1985*
Tetanus	19.3	1,383.5	73,300
Perinatal causes	18.4	1,320.6	69,900
Diarrhoea	15.6	1,119.4	59,200
ARI (including bronchitis and asthma)	14.4	1,031.3	54,700
Measles	7.5	540.8	28,500
Nervous system disorders	5.6	402.5	21,300
Congenital disorders	4.2	301.8	16,000
Diphtheria, whooping cough	1.0	75.5	3,800
Anaemia, malnutrition	1.0	75.5	3,800
Other and undetermined	13.0	930.7	49,400
All causes	100.0	7,181.6	380,000

* Total infant deaths from Table 3.3 distributed according to survey findings reported in the sources given below.

Source: Prosiding Seminar Survai Kesehatan Rumah Tangga 1986, p. 161, and Ratna L. Budiarso, "Pola Penyakit Penyebab Kematian Bayi: Survai Kesehatan Rumah Tangga 1985/86." Paper presented at the Seminar on Child Survival and Development, Jakarta, 29-30 June 1987. Estimated total infant deaths from Table 3.3 above.

The four largest categories together account for more than two-thirds of all infant deaths. About 28 per cent are caused by immunizable diseases--tetanus, measles, diphtheria and whooping cough. Another large fraction--close to 1 in 5--is due to birth injuries and other perinatal causes, and an additional 4 per cent to congenital anomalies. Most of these perinatal and congenital deaths are probably a consequence of poor maternal health and nutritional deficiencies during pregnancy, possibly combined with inadequate care at the time of delivery. Tetanus, which alone accounts for 19 per cent of the total, is concentrated in the neonatal period, where it causes over 39 per cent of the deaths; neonatal tetanus is also closely related to treatment of the umbilical cord during and after delivery .

only the direct cause of death was recorded, while results from the 1986 survey are given in terms of the underlying cause. Thus, for example, in the case of measles complicated by secondary infection with pneumonia, the cause of death in 1980 may have been recorded as pneumonia or, more broadly, acute respiratory infection, while the later survey would probably have listed measles as the cause.

For this reason the distribution of infant mortality, as presented in Table 3.6 below, should be interpreted with considerable caution. The figures for diarrhoea, acute respiratory infection (ARI), anaemia and malnutrition, and the immunizable diseases (except teta-

* This Household Health Survey covered 63 sub-districts in 7 provinces selected to represent the range of provincial IMR estimates in 1980: Yogyakarta, Bali, North Sulawesi, Bengkulu, West Kalimantan, Maluku and West Nusa Tenggara. The sample included more than 50,000 households with a total of nearly 300,000 members.

Table 3.6. Selected Causes of Infant Death in Indonesia, 1980 and 1986

	1980 (direct cause)		1986 (underlying cause)	
	%	Rate*	%	Rate
Diarrhoea	22.9	2,288.8	15.6	1,119.3
Acute respiratory infections	22.6	2,250.0	14.4	1,031.3
Tetanus	19.9	1,978.5	19.4	1,383.5
Perinatal causes	8.9	892.3	18.4	1,320.6
Nervous system disorders	7.4	737.1	5.6	402.5
Measles, diphtheria, pertussis	1.2	116.4	8.6	616.2
Anaemia, malnutrition	0.4	38.8	1.0	75.5
All others	16.7	1,668.1	17.0	1,232.6
All causes	100.0	9,970.0	100.0	7,181.5

* Deaths per 100,000 live births.

Source: Prosiding Seminar Survei Kesehatan Rumah Tangga 1986, p.161, and Ratna L. Budiarso, "Pola Penyakit Penyebab Kematian Bayi: Survei Kesehatan Rumah Tangga 1985/86." Paper presented at the Seminar on Child Survival and Development, Jakarta 29-30 June 1987.

nus) may be especially sensitive to differences in classification because these diseases frequently accompany other infections and often add greatly to mortality risk.

One or two initial observations can be made about these data without reference to specific causes. First, the four leading causes of death in 1980 were still the four leading causes in 1986. Their joint contribution to total infant mortality, however, has been reduced from three-quarters to two-thirds. Although the total infant mortality rate as measured in the two surveys declined from about 100 per thousand live births to 71.8, the proportion due to the 7 major cause categories remained almost exactly the same: 83.3 per cent of the total in 1980 and 83.0 per cent in 1986. The immunizable diseases appear to account for a larger share of the total in 1986 than in 1980, a finding difficult to reconcile with the rapid expansion of immunization coverage during the period. This may be largely due to the different methods of classifying cause of death in the two surveys.

Tetanus, which should be affected relatively little by differences in classification, is shown to be a major killer of infants in both surveys. Although the cause-specific mortality rate seems to have declined by about 30 per cent, from 1,978.5 to 1,383.5 per 100,000 live births, tetanus still accounted for an estimated 70,000 infant deaths in 1985, more than 1 out of every 5. This proportion is essentially unchanged from 1980.

It is not immediately apparent why the incidence of death due to perinatal causes should have increased as sharply as is shown in the table above, from 892.3 to 1,320.6 per 100,000 live births. In proportional terms the change is even more striking. The conditions which contribute most to this class of infant mortality factors are those which relate closely to the health and nutritional status of the mother, the type of ante-natal care and delivery assistance received, and the sanitary condition of the place where the birth takes place. The observed increase may reflect the greater weight in the 1986 survey to outlying provinces of the country where general levels of health and nutrition are often lower than on Java, and where medical facilities and trained assistance for problems in pregnancy and delivery may be less readily available.

3. Neonatal and Post-neonatal Mortality

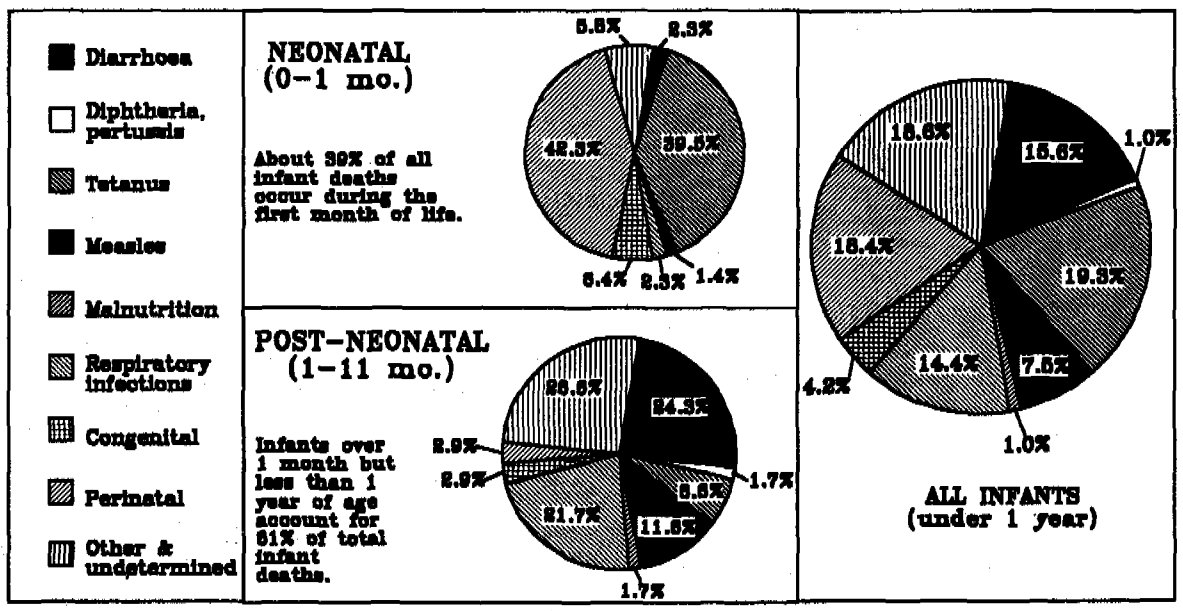
As noted above, distinct differences exist between the causes of death in early infancy and those most prevalent later in the first year of life. Overall, neonatal mortality--deaths occuring within one month of birth--accounts for about
40 per cent of total IMR in Indonesia, and more than 10 per cent of all deaths among all age groups. These proportions have not changed since the 1980 household health survey.

The differences between neonatal and post-neonatal mortality are illustrated in Figure 3.2. Of the four main causes of total infant deaths--tetanus, perinatal causes, diarrhoea and ARI--the first two are seen to be predominantly mortality factors in the neonatal period, while diarrhoea and ARI are of major importance later in infancy.

obstructed labour and unhygienic delivery, possibly exacerbated by low birth-weight or prematurity. Not infrequently, low birth-weight and prematurity are related to the health and nutritional status of the mother. An additional 6 per cent of the neonatal mortality is due to congenital anomalies and abnormalities, which may stem from genetic defects or, more frequently, from improper foetal development. Thus, as with perinatal causes, the mother's health, nutritional status and general well-being during pregnancy are critical in determining the incidence of death from congenital causes. Maternal iodine deficiency, which is known to affect foetal development, may be an important contributor to this mortality category.

A particularly noteworthy finding of the 1986 health survey was that in Yogyakarta, which has long had the lowest IMR of any of Indonesia's 27 provinces, perinatal causes accounted for 47 per cent of all infant

Figure 3.2. Main Causes of Infant Mortality, 1986



Source: Tables 3.5 and 3.7.

During the neonatal period, 4 out of every 5 deaths are due either to neonatal tetanus or to perinatal causes--suffocation, infection and other complications or diseases related directly to birth and its immediate aftermath. Perinatal mortality is most often a result of

deaths. In the other 6 provinces covered by the survey, this proportion varied between 12 per cent (Bengkulu) and 22 per cent (Bali), and for the total sample was 18 per cent. Since the total number of recorded infant deaths was very small in Yogyakarta (19), firm conclusions based on this finding are not justified. However, the

Yogyakarta example illustrates the point that as diarrhoea and the immunizable diseases are increasingly brought under control, MCH services will take on increasing importance for further IMR reduction.

If an Indonesian child survives the first month after birth, the biggest threats to its survival during the remainder of its first year are diarrhoea and respiratory infections, accounting for about 24 per cent and 22 per cent, respectively, of post-neonatal mortality. In this age category, the immunizable diseases--tetanus, measles, diphtheria and whooping cough*--together accounted for another 20 per cent of total deaths. A third of these were due to tetanus and nearly three-fifths to measles.

Diarrhoea, ARI and measles, then, accounted for almost 60 per cent of post-neonatal mortality, and perinatal and congenital causes for another 6 per cent. The "other/undetermined" category is much larger than for the neonatal period, a reflection of the fact that older children tend to be exposed to a wider variety of environmental conditions than newborns and therefore are subjected to a wider range of health risks.

Bearing in mind the different classification methods used in the 1980 and 1986 health surveys, some limited comparisons can be made of cause-specific mortality during the neonatal and post-neonatal periods for the two years (Table 3.7).

Diarrhoea and ARI appear to have been reduced sharply for both neonatal and post-neonatal periods, but as noted above, these comparisons are likely to be particularly unreliable. Tetanus declined slightly for neonates, both in incidence and as a proportion of the total, but the decline was offset by a higher incidence among older infants. Perinatal and congenital causes both rose sharply, not only in the first month after birth but later as well. As observed in the overall infant mortality pattern, measles, diphtheria and whooping cough seem to have taken a sharp upturn between 1980 and 1986, striking primarily among older infants. Malnutrition, anaemia and similar causes, which in both survey years led to death exclusively in the post-neonatal period, show some increase but remain proportionally very small. These nutrition-related causes, like those preventable through immunization, are particularly sensitive to the change in method of classifying cause of death.

Neonatal tetanus and perinatal causes are by far the most important factors in neonatal mortality in both 1980 and 1986. Diarrhoea, ARI and the vaccine-

Table 3.7. Selected Causes of Neonatal and Post-Neonatal Mortality, 1980 and 1986

	Neonatal Deaths				Post-neonatal Deaths			
	1980 (direct cause)		1986 (underlying cause)		1980 (direct cause)		1986 (underlying cause)	
	%	Rate*	%	Rate	%	Rate	%	Rate
Diarrhoea	8.8	349.1	2.3	62.9	32.3	1,939.7	24.3	1,056.5
Acute respiratory infections	10.8	426.1	2.3	62.9	30.3	1,823.3	21.7	943.3
Tetanus	43.1	1,676.9	39.5	1,084.2	4.5	271.6	6.6	289.3
Perinatal causes	22.5	882.3	42.3	1,159.7	—	—	2.9	125.8
Measles, diphtheria, pertussis	—	—	1.4	37.7	1.9	116.4	13.3	578.5
Congenital abnormalities	2.0	77.6	6.0	166.1	1.3	77.6	2.9	125.8
Nervous system disorders	2.0	77.6	—	—	11.0	659.5	9.2	402.5
Anaemia, malnutrition, avitaminosis	—	—	—	—	0.6	38.8	1.7	75.5
All others/undetermined	12.8	504.4	5.9	163.6	29.0	1,745.6	26.6	1,157.0
All causes	100.0	3,881.0	100.0	2,737.1	100.0	6,013.0	100.0	4,351.7

* Per 100,000 live births.
Source: Ratna L. Budiarso, Pola Kematian Bayi [illegible] Survai Kesehatan Rumah Tangga 1985/1986, p. 9.

*Polio is also one of the diseases covered by the Expanded Programme on Immunization, but it is seldom fatal. None of the deaths registered in the 1986 health survey was attributed to polio.

preventable causes account for much the largest share of deaths among older infants. Seventy-five to 85 per cent of neonatal mortality is due to tetanus, perinatal causes and ARI alone. Post-neonatal deaths tend to be caused by a somewhat wider range of factors, but even so 70-75 per cent were due to the same 7 categories in both survey years.

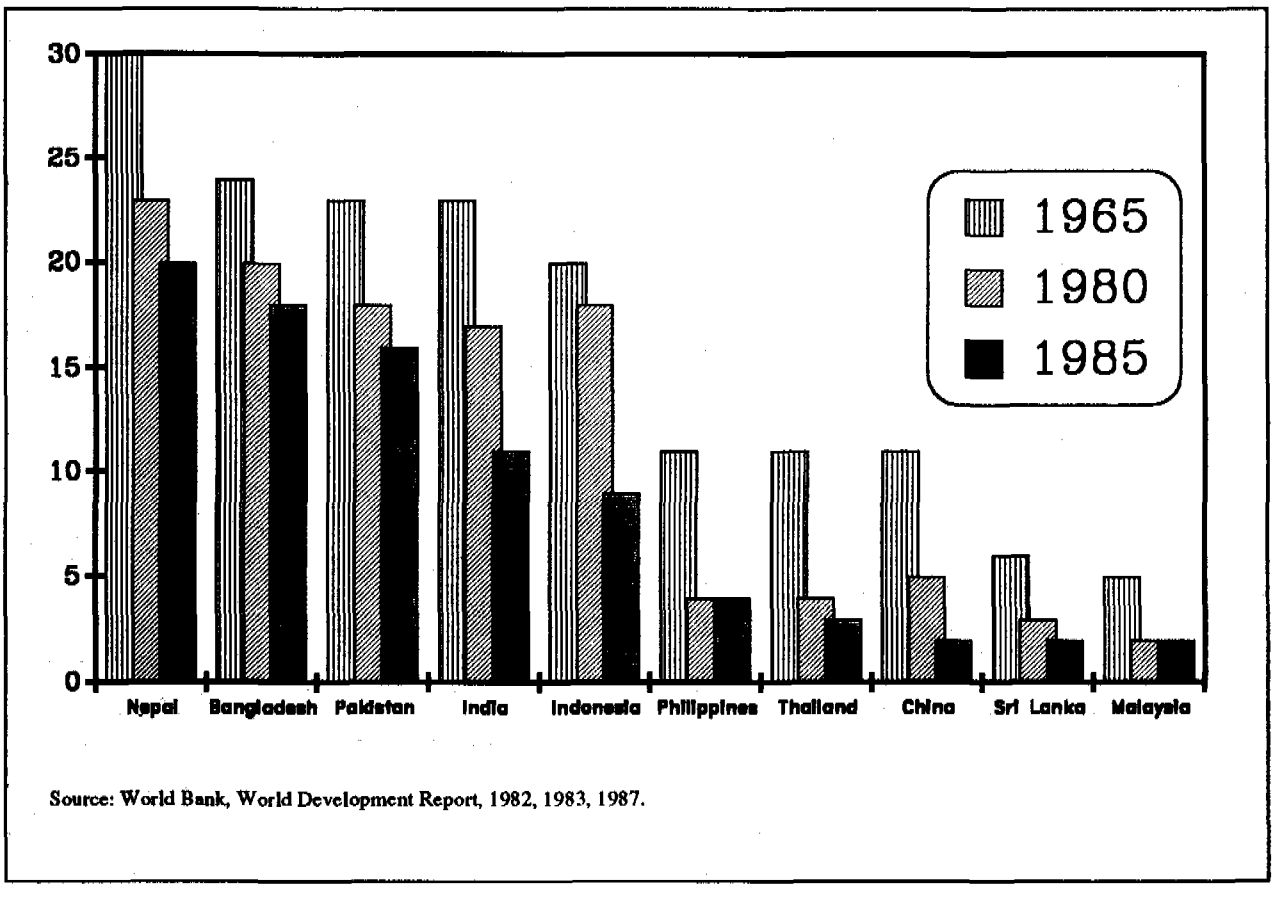
4. Child Mortality

Mortality among older children (ages 1-4) has dropped from an estimated 18 per thousand in 1980 to around 8-10 in 1985. Since 1965, Indonesia's child mortality rate has declined by about 60 per cent, implying an average reduction rate of 4.5 per cent per year. This is a somewhat slower rate than for infant mortality, and in this respect Indonesia's experience differs from that of the other countries shown in Figure 3.3. Everywhere except in Indonesia the average annual reduction for child mortality is larger, usually by a substantial margin, than the rate of decline in IMR.

Mortality during infancy accounts for about 27 per cent of all deaths that occur in Indonesia each year, and another 16 per cent of all deaths occur among children past infancy but still too young to attend school (Figure 3.4).

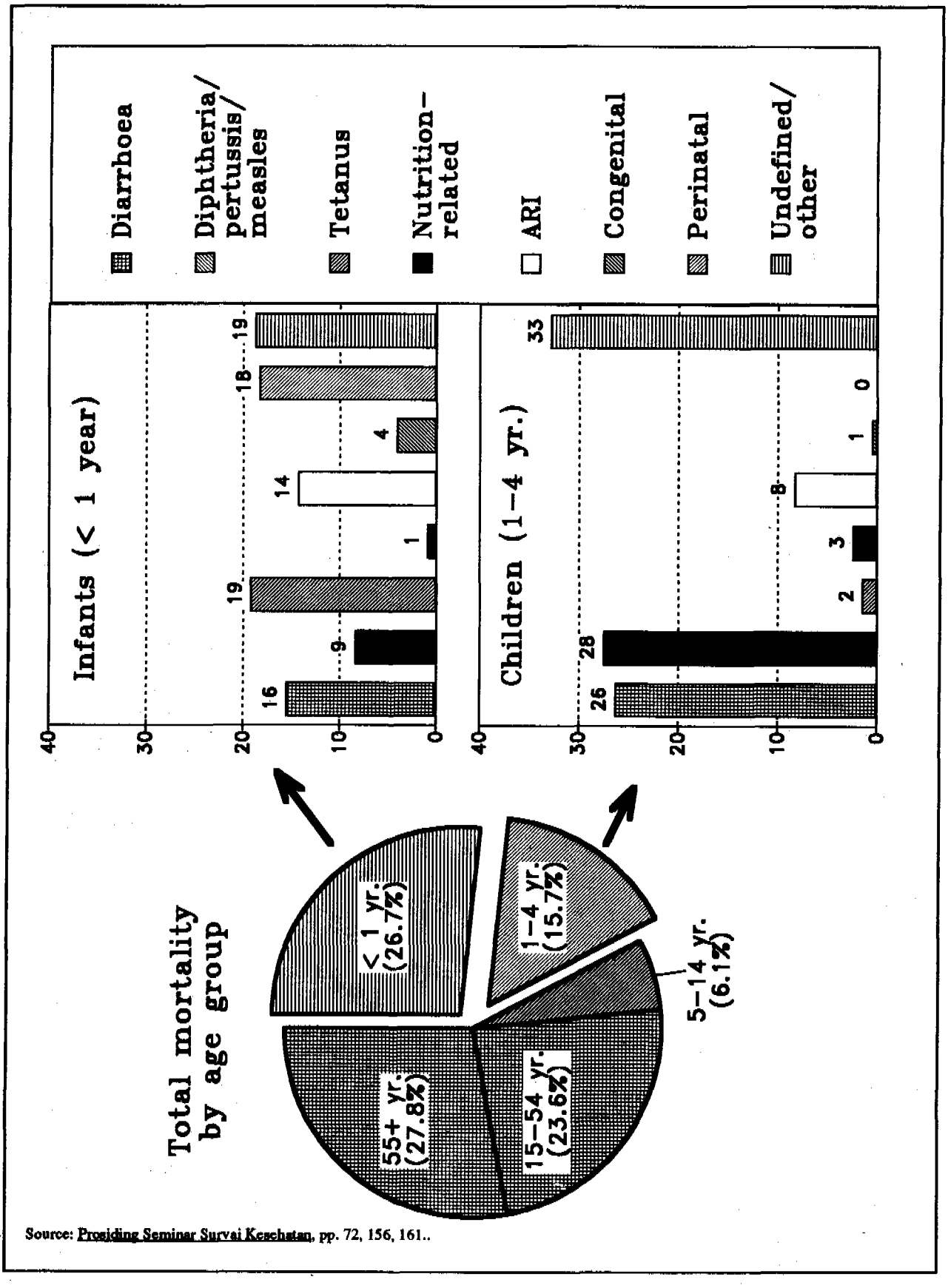
The first year, as we have seen, and especially the first month, is the most dangerous period of early life. However, breastfeeding during the first year or two provides some measure of protection against infectious diseases, and the physical inability of infants to move about much also limits their exposure to environmental hazards. With weaning, and the simultaneous development of strength and motor skills, a child enters a second high risk period, typically between 1 and 2 years of age. This may last only a year or so, or it may extend to age 5 or beyond, depending largely on nutritional status, environmental conditions and the availability of health care. In most countries, however, the age-specific mortality rate drops off sharply after age 5 and does not begin to rise significantly until about age 40 or above.

Figure 3.3. Child Mortality Reduction in Selected Countries 1965 - 1985 (Rate per Thousand Children Aged 1 - 4)



Source: World Bank, World Development Report, 1982, 1983, 1987.

Figure 3.4. Total Mortality by Age Group



Source: Prosiding Seminar Survai Kesehatan, pp. 72, 156, 161..

The major causes of death in the 1-4 age group are shown in Table 3.8 below. The trend toward a greater diversity of significant causes continues, though only two major cause categories--diarrhoea and the immunizable diseases, measles, diphtheria, whooping cough and tetanus--are responsible for more than half of the total mortality. These causes, along with ARI, account for a slightly larger proportion of early childhood deaths than of those occuring in the post-neonatal period, but the pattern is very similar.* The vaccine preventable diseases, plus diarrhoea and ARI, account for two-thirds of post-neonatal deaths and 64 per cent of early child deaths. The only significant causes that are new in the childhood period are malaria and accidents.

B. MATERNAL HEALTH AND MORTALITY

Obviously, child health and welfare are closely related to the physical condition of the mother. This relationship begins very early in pregnancy and continues at least through the breastfeeding period. In the preceding discussion of infant and child mortality, perinatal and congenital causes were seen to account for more than one-fifth of all infant deaths. Some of the most common of the specific perinatal causes--asphyxia, infection and birth trauma, for example--are the direct results of circumstances which also threaten the life of the mother (Figure 3.5). Other linkages between maternal and child mortality factors are less obvious, but they are just as real and equally dangerous. Some of these will be discussed in more detail below.

A paper prepared for a WHO conference on maternal mortality noted that "The level of maternal mortality is not known for most developing countries; and the higher it is, the less likely it is to be known."** Various studies conducted in Indonesia since the late 1970s have reported rates varying between 1.5 and 7.2 per thousand live births. The two most extensive studies giving attention to this topic are the household health surveys of 1980 and 1986. The 1980 Survey, conducted in 6 provinces (including East, West and Central Java), recorded an overall rate of 1.5 maternal deaths per thousand live births. The 1986 Survey reported an overall rate of 4.5, ranging between 1.3 and 7.8 among the 7 provinces surveyed (mostly outside Java). Smaller studies have tended to find higher maternal mortality rates.

Table 3.8. Major Underlying Causes of Death Among Children Aged 1-4, 1986

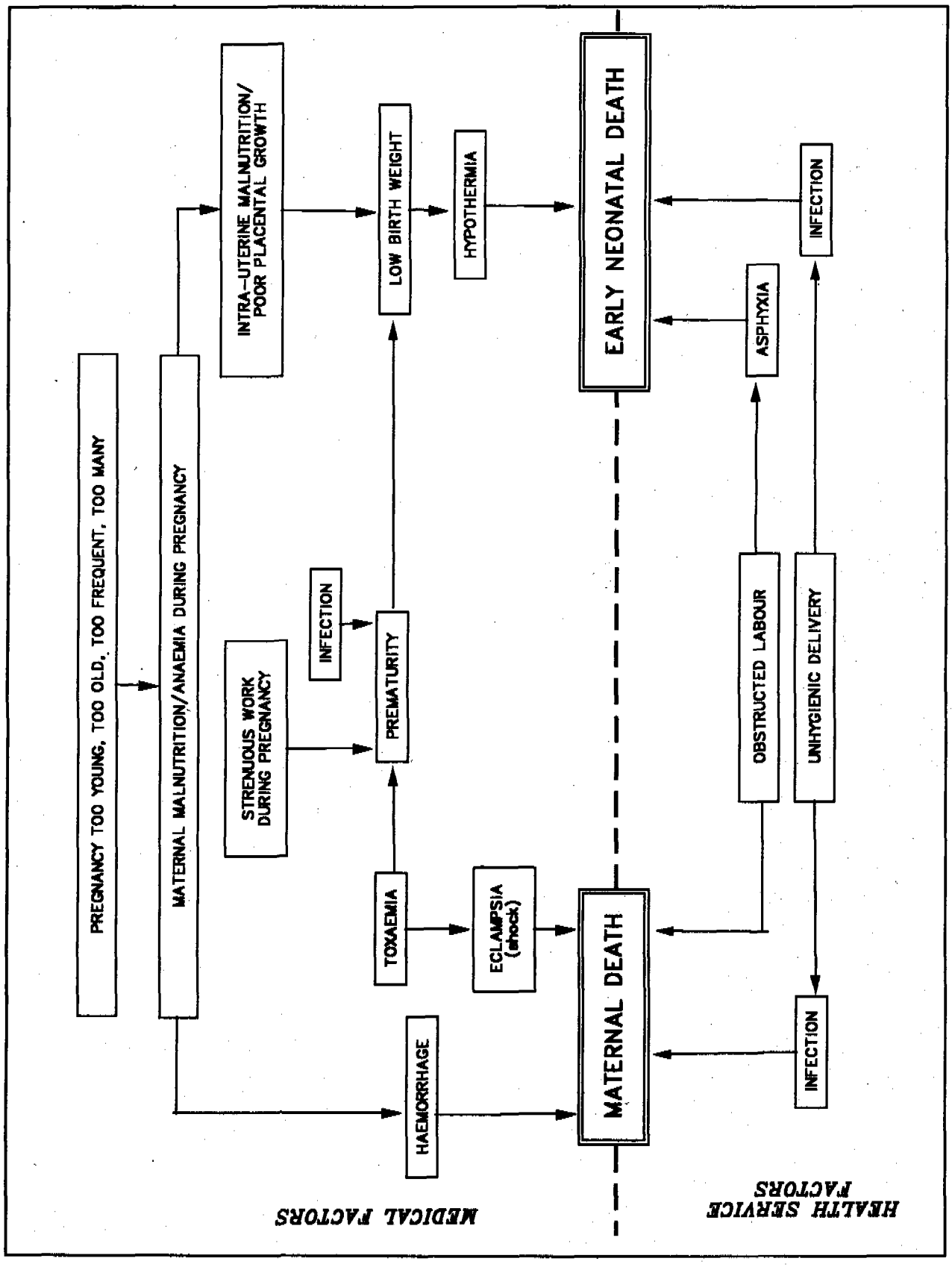
	Rate per 100,000 children 1-4	Per cent of child deaths	Cumulative per cent	Est. no. of deaths 1985
Diarrhoea	278.4	26.4	26.4	47,800
Measles, diphtheria, pertussis	291.5	27.6	54.0	50,000
ARI (acute respiratory infections)	88.4	8.4	62.4	15,200
Malaria	55.7	5.3	67.7	9,600
Accidents, injuries	52.4	5.0	72.7	9,000
Nervous system disorders	49.1	4.7	77.4	8,500
Anaemia, malnutrition, avitaminosis	26.2	2.5	79.9	4,500
Bronchitis, asthma	26.2	2.5	82.4	4,500
Tetanus	16.4	1.6	84.0	2,900
All others	170.5	16.0	100.0	29,000
All causes/undetermined	1,054.8	100.0	—	181,000

Source: Prosiding Seminar Survai Kesehatan, p.161., Estimated deaths based on CBS, SUPAS 1985 No. 5.

* The interaction of two diseases can far outweigh the sum of their individual effects, and malnutrition reduces resistance tio infection and very frequently increases the severity of illness. The measles-malnutrition combination is a classic example of the interplay between factors. Severely undernourished children have been shown to suffer twice the measles mortality of children with adequate nutrition. Death from measles is often related to a complicating infection, usually diarrhoea or pneumonia. Studies have shown that measles followed by prolonged diarrhoea carries four times the fatality risk of measles alone.

** Fortney, et al., 1985

Figure 3.5. Interrelationship Among Factors Affecting Early Neonatal and Maternal Death



This wide variation to some extent reflects real differences within the country, though undoubtedly the usual problems of under-reporting and misclassification are also important factors. Even where maternal mortality rates are relatively very high, the actual number of deaths will be small. For this reason even a few cases can make a very significant difference in calculated mortality rates. As compared with most other ASEAN countries, even the lowest estimate of Indonesian MMR is high, though it is not greatly out of line with estimates for a number of other countries in Asia and Africa (Table 3.9). At 4.5 per thousand live births, maternal mortality in Indonesia would account for about 20,300 deaths a year.

Causes of maternal mortality are conventionally classified into 3 categories: direct obstetric--causes related to complications of delivery or pregnancy or their management; indirect obstetric--deaths resulting from the aggravation of some existing condition by pregnancy or delivery; and unrelated causes--deaths occuring to women who have been pregnant within the previous 42 days but which are not related, directly or indirectly, to pregnancy or delivery. Direct deaths in developing countries typically account for 50-98 per cent of the total.* A large hospital study** found direct obstetric causes to be responsible for 94.4 per cent of maternal deaths, and indirect obstetric causes for an additional 4.6 per cent.

Table 3.9. Estimated Maternal Mortality Rates in Selected Developing Countries*

	M M R	Reference location
Indonesia	150	National (6 provinces, mostly Java)
	450	National (7 provinces) mostly non-Java)
	780	Bali
ASEAN		
Malaysia	69	National
Philippines	142	National
Singapore	5	National
Thailand	100	National
Other Asia		
Bangladesh	566	Rural area
	833	Rural area
China	13	Urban Shanghai
	22	Rural Shanghai
India	545	Urban Anantapur
	874	Rural Anantapur
Africa		
Egypt	190	Northern Egypt
	300	Southern Egypt
Ethiopia	566	Addis Ababa

* Per 100,000 live births.

Source: WHO, Maternal Mortality: Helping Women Off the Road to Death, WHO Chronicle 40(5): 176, 1986; and Studies on Health and Family Planning in ASEAN countries, 1984.

* WHO Chronicle.

** I-Cheng Chi, et al.

Haemorrhage, infection and toxaemia are the deadly "classical triad" which usually cause at least half of all maternal deaths. In several Indonesian studies, the total for these three causes ranged between 75 per cent and 85 per cent. The most prominent risk factors associated with maternal mortality are age and parity (the number of previous children a woman has borne), urban or rural residence (which largely reflects access to health services), anaemic condition at the time of delivery, antenatal care, and the quality of assistance in delivery and the hygienic condition of the place in which it occurs. These factors have been found to apply in many developing countries,* and Indonesian studies tend to confirm this general picture.

Malaria is also a significant indirect factor in maternal health and mortality. Pregnant women are at a hightened risk of contracting malaria infection. For reasons not yet clearly understood, pregnant women lose during early pregnancy whatever partial immunity they may have acquired against the parasite. This phenomenon is most pronounced during the first pregnancy and decreases with subsequent pregnancies. Ability to resist the disease returns after delivery.**

Hospital data from the teaching hospital study cited above show that the safest age for childbearing is between 20 and 29 (Table 3.10). Even within this age group, MMR goes up very rapidly following the second birth. Mothers over 35 face a mortality risk more than 3 times as high as those 20-29; for those within the 20-29 age group, giving birth to more than 3 children carries a risk more than 2.5 times as high having only one child.

According to these data, the safest practice from the point of view of maternal health is to limit family size to one or two children, and to have them while the mother is in her twenties. This is far from the situation revealed by the 1986 household health survey, which showed that in the 7 sample provinces parity had reached 2.7 by age 29, and continued to increase steadily to age 45-49, when average parity was 6.3. About 20 per cent of pregnant women were under age 20 or over age 34. Thirty-six per cent of pregnant woman sampled were parity 3 or above; for women who had given birth during the previous year, more than half were parity 3 or above. Another study in West Java found that 46 per cent of pregnant women were in their fourth pregnancy or higher. National survey data (SUPAS 1985) show only 46 per cent of urban women and 37 per cent of rural married women age 30-49 to be current contraceptive users.

Data from the teaching hospital study also shows the impact of iron deficiency anaemia on maternal mortality. The MMR for anaemic women was about 70 per 10,000 maternity cases, while for non-anaemic women it was 19. A greater proportion of rural women were found to be anaemic, contributing to much higher mater-

Table 3.10. Hospital Maternal Mortality Rates by Age and Parity

Age	Parity				Total
	0	1	2-3	4+	
<20	40.8	(20.5)	(166.7)	(0.0)	40.0
20-29	20.8	20.8	26.5	49.8	24.6
30-34	(45.2)	(41.0)	57.6	37.5	44.7
35+	(0.0)	(0.0)	62.4	90.7	81.5
Total	27.1	21.8	37.1	64.6	37.7

Note: Rates per 10,000 maternity cases. Parity means member of previous live births. Figures in parentheses are based on less than 500 maternity cases. The tables as awhole is based on about 36,000 women.

Source: I-Cheng Chi, et al. 1981, p. 262.

* A study of medical records of maternal deaths in nine countries showed that in 90 per cent or more of these cases death could probably have been avoided within the existing health systems of the countries studied.

** See Galway, K., B. Wolff, R. Sturgis, Child Survival: Risks and the road to Health. The Demographic Data for Development Project for the Agency for International Development by the Institute for Resource Development/Westinghouse, 1987, p. 27-28.

nal mortality among these women (76/10,000 maternity cases vs. 25 for urban women). It should be noted that anaemic status in this study was determined at the time of hospital admission. Where haemorrhage was a factor, the loss of blood, probably worsened by transportation difficulties and distance to medical facilities, may account for much of the observed anaemia, rather than a pre-existing condition. However, nearly three-quarters of the pregnant women in the household health survey were found to be anaemic. Any blood loss during the perinatal period would simply exacerbate this existing problem.

A major health function of ante-natal care is the early identification of risk factors which may adversely affect the pregnancy outcome for both mother and child. The effectiveness of the health system in performing this function depends critically on two conditions: that women seek out available counselling and prenatal care services, and that high risk conditions are in fact properly identified and appropriate referrals made.

Though ante-natal care is an integral part of Indonesia's MCH programme, and in principle is available to all pregnant women at little cost, both health surveys and programme service statistics show relatively low coverage rates: 50-70 per cent of the target population have paid at least one prenatal visit to a health specialist or facility, but only a third or fewer have been examined at least four times as recommended by the programme (see Table 3.11). It appears that many women make one or two visits for the purpose of testing for pregnancy; once this is confirmed they may not come back again until the next pregnancy .

As shown in Table 3.11, inter-provincial variation is very great. In West Kalimantan, Maluku and West Nusa Tenggara, about half of the women had made no ante-natal visits. On the other hand, more than three-quarters of Yogyakarta women made more than 3 visits; this is 1.5 times the proportion in the second-highest province (Bali) and 2.2 times the 7-province average.

Table 3.11. Frequency of Examination During Pregnancy, by Province (per cent of women who gave birth during the previous year)

	Yogyakarta (%)	Bali (%)	North Sulawesi (%)	Bengkulu (%)	West Kalimantan (%)	Maluku (%)	West Nusa Tenggara (%)	Total (%)	Cum. Total (%)
Never	7.2	19.5	16.1	37.9	53.7	50.0	47.8	37.1	37.1
Once	3.1	7.2	8.7	3.3	11.2	4.9	7.1	6.8	43.9
Twice	6.3	10.5	13.6	9.2	12.5	8.1	14.0	10.9	54.8
Three times	6.7	14.2	18.6	7.5	10.1	8.7	12.3	11.0	65.8
More than 3 times	76.7	48.6	43.0	42.1	12.5	28.3	18.8	34.2	100.0

Source: Prosiding Seminar Survai Kesehatan, p. 184.

Maternal education, which is well-known to have a strong correlation with reduced infant mortality, also influences maternal mortality through greater and more effective use of available health services by better educated women, and their enhanced understanding of the importance of nutrition and preventive care. Better educated women tend to seek ante-natal services in higher proportion than those with less education; the average number of visits is higher; and there is a greater likelihood of choosing a doctor, nurse or midwife rather than a traditional birth attendant as the source of ante-natal care, and a clinic or hospital as the place of delivery, for women who have completed at least primary school (Table 3.12).

C. MORBIDITY

1. Causes and Rates of Morbidity

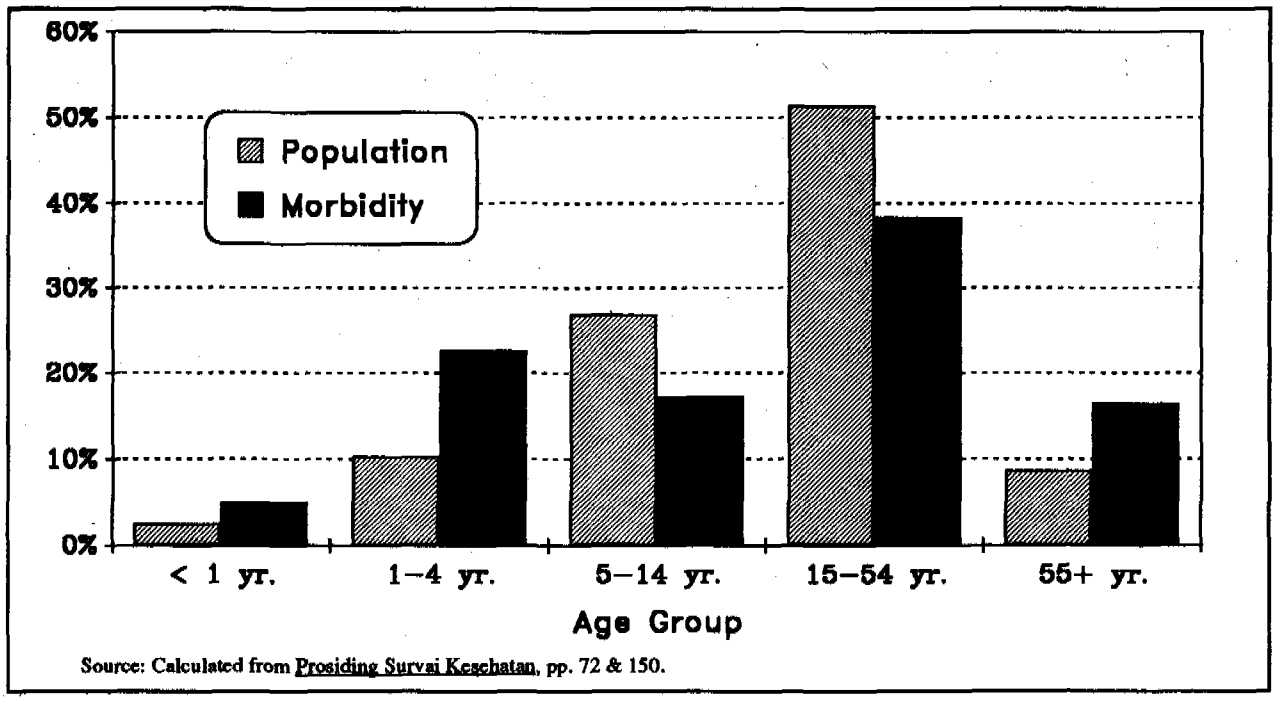
As a general rule, according to the most recent survey data, infancy and early childhood are the unhealthiest times of life prior to old age (Figure 3.6). As with mortality, the contribution of the very young to the total morbidity rate is greatly out of proportion with their numbers in the population as a whole: under-fives comprise about 13 per cent of the population but account for more than twice that proportion of the total morbidity.

Table 3.12. Use of Health Services According to Level of Maternal Education, Yogyakarta (%)

	Illiterate (0-2 year)	Some primary (3-5 years)	Complete primary (6 years)	Secondary school (7+ years)
Any ante-natal visits	89.3	94.5	96.9	98.9
Average no. visits	3.2	3.4	3.9	5.4
Source:				
Nurse or doctor	20.2	18.6	19.9	30.8
Multiple modern	0.3	6.2	10.7	14.3
Traditional	15.5	11.0	4.1	3.3
Modern and traditional	45.2	58.6	57.1	45.1
Place of birth of child:				
Clinic or hospital	1.2	2.1	3.6	28.6
Attendant at birth:				
Doctor or nurse	1.1	5.5	6.6	30.8
Trained TBA	52.9	65.5	69.9	45.1
Untrained TBA	41.4	24.8	20.4	9.9
Nurse and TBA	4.6	4.1	3.1	14.3
Mother ever received TT:				
Yes	52.4	69.0	79.1	90.1
No	28.6	16.6	7.7	5.5
Don't know	19.0	14.4	12.8	4.4
Current FP user:				
Yes	29.3	48.9	44.6	66.7

Source: Streatfield et al., 1986, Tables 8 and 9.

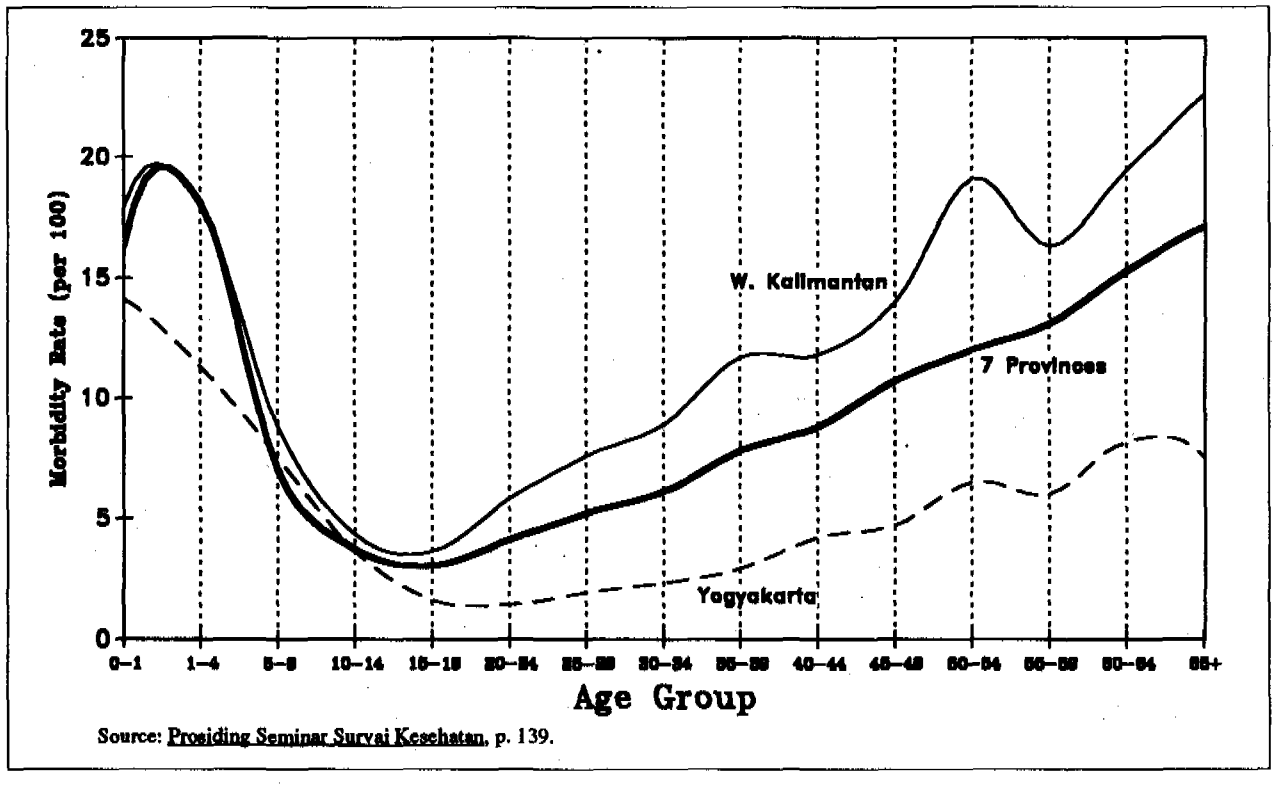
Figure 3.6. Percentage Distribution of Population and Morbidity by Age Group, 1986



Source: Calculated from Prosiding Survai Kesehatan, pp. 72 & 150.

Figure 3.6 shows the overall pattern for the 7 health survey provinces, but there are substantial differences among the provinces (Figure 3.7). In Yogyakarta, for example, morbidity is at its highest during infancy and drops off relatively gradually before starting to rise again in the mid-twenties. In West Kalimantan and most

Figure 3.7. Morbidity Pattern for Selected Provinces by Age Group 1986



Source: Prosiding Seminar Survai Kesehatan, p. 139.

of the other survey provinces, the peak occurs during ages 1-4 and drops off very sharply thereafter. Breastfeeding is probably the major factor that holds morbidity down during infancy. Removal of this protection through weaning, in conjunction with increased exposure to infection and other health hazards in the environment, is reflected in the rise in morbidity between ages 1 and 4.

A comparison of age-specific morbidity rates as recorded in the 1980 and 1986 health surveys shows a decline in total morbidity of about 28 per cent, but little of this is due to reduction of illness during the 0-4 period (Table 3.13). As noted in the discussion of mortality above, the samples for the two health surveys were drawn from different parts of Indonesia and comparisons should be therefore interpreted with caution.

Not only the level of illness, but its causes as well are very different from one age group to the next. The major illness among young children is acute respiratory infections (ARI), a rather broad category of diseases including influenza and the common cold, ear and throat infections, bronchitis, bronchiolitis and pneumonia.* Only the last two of these infections present in themselves a serious threat to life, but ARI as a source of illness accounts for more than 40 per cent of the total during infancy and only a slightly lower percentage during ages 1-4. Fully a quarter of all sickness in the entire population is caused by ARI, and this category is the single major morbidity factor in every age group except 55 and above.

Among infants, the second most important cause of illness is diarrhoea, closely followed by skin infections. These causes contribute 15 per cent and 12 per cent respectively to total morbidity. Thus ARI, diarrhoea and skin infections account for 70 per cent of the illness during the first year of life (Table 3.14).

Table 3.13. Age-Specific Morbidity Rates, 1980 and 1986*

Age Group	Household Health Survey 1980	Household Health Survey 1986
<1	15.8	16.3
1-4	19.4	18.1
5-14	7.2	5.7
15-54	9.9	6.1
55+	25.2	15.1
All ages	11.5	8.3

*Per 100 persons in the age group.

Inadequate nutrition and crowded living conditions are among the important risk factors related to respiratory tract infections. Poor personal hygiene and inadequate sanitation are major causes of diarrhoea and skin infections. Contaminated food and water are the most frequent carriers of bacterial agents which are primary sources of these diseases.

*Stanley O. Foster, "Immunization and Respiratory Diseases and Child Mortality". Pp. 119-140 in Mosley and Chen, Child Survival: Strategies for Research, 1984. Published findings of the Household Health Survey group bronchitis with asthma and other respiratory diseases which comprise 7-8 per cent of total infant and child morbidity.

For children aged 1-4, diarrhoea and skin diseases are also the second and third most important causes of morbidity. In this age group, skin diseases are responsible for 15 per cent and diarrhoea 11 per cent. Thus, as in infancy, the top three categories are responsible for most of the illness. As Table 3.14 shows, a few other disease categories also contribute significantly to both infant and toddler morbidity--bronchitis, asthma and other respiratory ailments, disorders of the nervous system (which includes, in the Household Health Survey data, eye and ear infections), malaria and the immunizable diseases.

Among the less prominent causes, malaria and nervous system disorders are somewhat more important among toddlers than among infants, while the immunizable diseases are more common during infancy.

2. Undernutrition

The most extensive data available at present on child nutritional status come from the 1986 and 1987 National Socio-Economic Surveys. In all sample households with one or more children under five years of age,

Table 3.14. Major Causes of Infant and Child Morbidity, 1986

Cause	Under 1			1-4		
	Rate*	%	Cum.%	Rate	%	Cum.%
ARI	70.2	42.4	42.4	73.8	40.6	40.6
Diarrhoea	25.0	15.1	57.5	20.6	11.4	52.0
Skin infections	20.1	12.2	69.7	26.3	14.5	66.5
Bronchitis, asthma, other respiratory infections	13.3	8.0	77.7	12.8	7.1	73.6
Nervous system disorders	7.5	4.5	82.2	11.5	6.3	79.9
Tuberculosis, diphtheria, pertussis, measles	6.8	4.2	86.0	5.4	3.0	81.3
Malaria	2.6	1.6	83.8	7.9	4.4	84.3
Other infections	15.5	9.4	97.4	18.4	10.2	97.5
All causes	165.7	100.0	—	181.5	100.0	—

* Per thousand persons in the age group.
Source: Prosiding Seminar Survei Kesehatan, p. 140.

Surprisingly, there are few major differences in the causal patterns of infant and child morbidity. As noted above, ARI, diarrhoea and skin diseases together account for 66-70 per cent of the total in both age groups.

each child was weighed and its nutritional status, based on weight for age, estimated. In this way the anthropometric measurements of 20,000 - 30,000 children living in all provinces were taken (Table 3.15).

Table 3.15. Nutritional Status of Under-fives (weight for age),* 1987

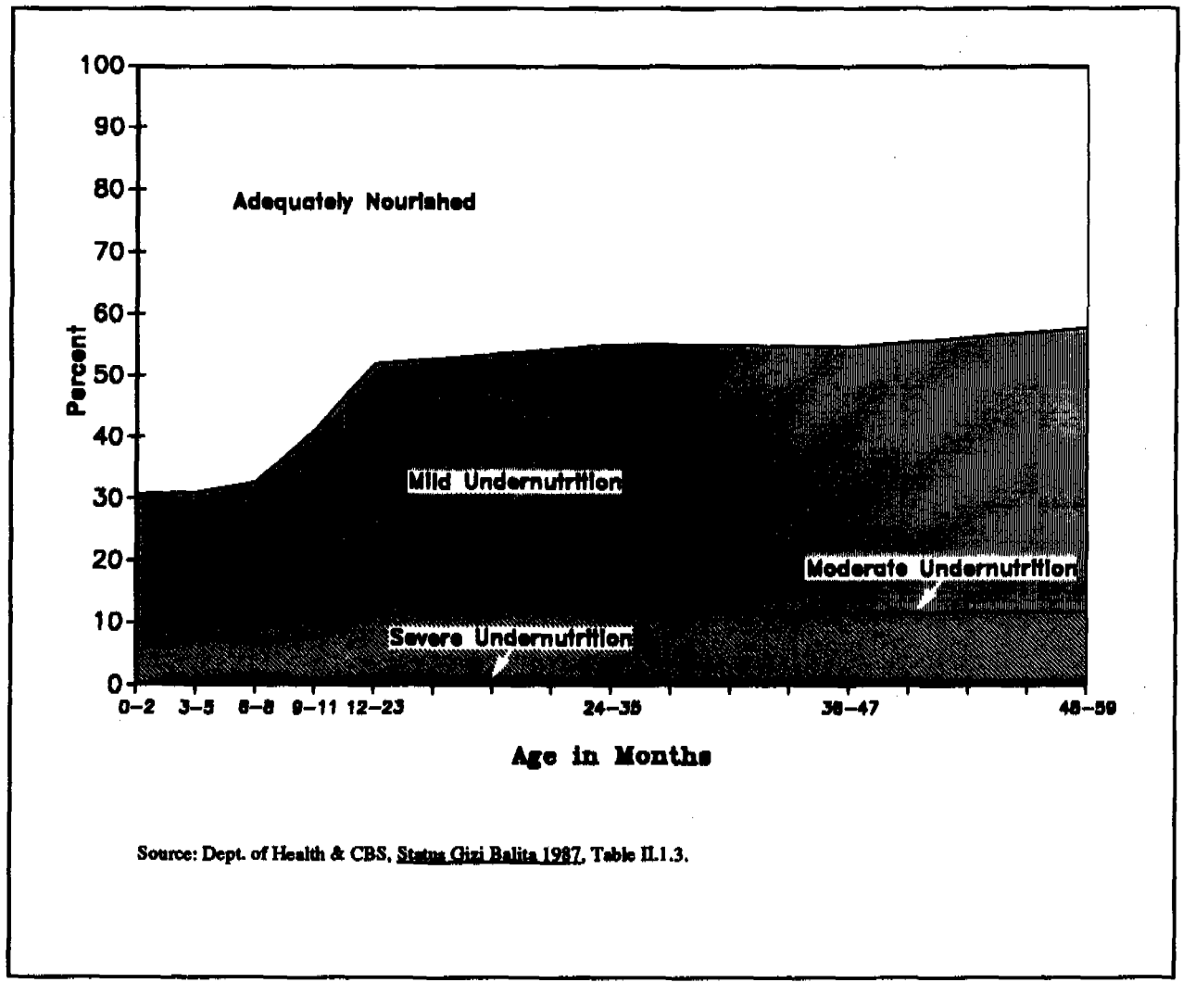
	Adequately nourished	Undernourished		
	≥80%	Mild 70-79%	Moderate 60-69%	Severe <60%
INDONESIA	48.1	40.2	9.8	1.3
Rural	45.2	42.1	11.2	1.5
Urban	59.4	32.8	6.9	0.9
Male	51.2	38.9	8.7	1.1
Female	46.0	41.6	11.0	1.4

* Harvard standard
Source: Dept. of Health & CBS, Status Gizi Balita 1987.

These data indicate that in 1987 just under half of the young children in Indonesia are adequately nourished (at least 80 per cent of the Harvard standard). About 40 per cent suffer from mild undernourishment, and approximately 1 child out of 9 is moderately or severely undernourished. The severely undernourished group is proportionally very small, but if projected onto the 1985 under-five population it includes more than 300,000 children. The moderately undernourished number about 2.3 million. Therefore, the current total of moderately to severely undernourished children in Indonesia is probably around 3 million, out of a total 24 million under-fives.

As has often been observed in Indonesia and elsewhere, the pattern of undernutrition is not evenly distributed throughout childhood. Figure 3.8 shows how nutritional status varies throughout the first 5 years of life. In general, the incidence of undernutrition is lowest during the first 6 months, when most Indonesian children are breastfed, and rises fairly sharply to a peak between 1 and 2 years--during the transitional period between breastfeeding and a fully solid food diet. After this the level of mild undernutrition remains about constant while the proportions at moderate and severe levels decline gradually. It is noteworthy that relatively little change occurs among those in the lowest nutritional category, suggesting that those children who start life in a undernourished state are likely to have difficulty overcoming this condition.

Figure 3.8. Nutritional Status by Level and Age Group, 1987
Urban + Rural

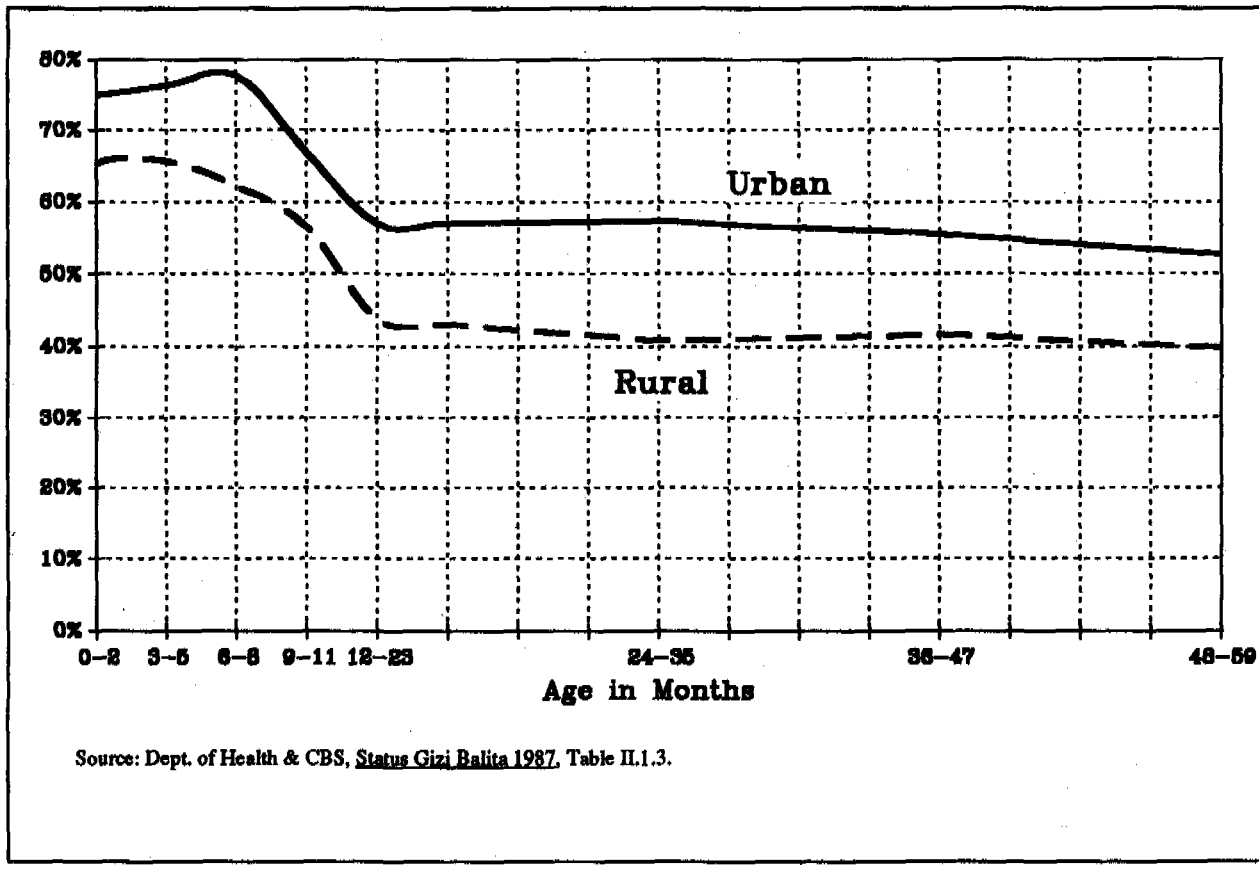


Source: Dept. of Health & CBS, Status Gizi Balita 1987, Table II.1.3.

Urban-rural differentials for adequate nutrition at each age are shown in Figure 3.9. During the first year the gap is fairly constant, though it widens somewhat among older children. In urban areas, more than 75 per cent of the children get a well-nourished start in life, but this proportion begins immediately to decline and by age 5 has become only 53 per cent. Children in rural areas lag by almost 10 percentage points in the beginning, but the gap widens to 13 points by the 60th month. Female children have a slight nutritional advantage up to about 6 months of age. Thereafter boys are substantially better represented in the adequately nourished category and have a lower proportion in the moderate and severe undernourishment groups.

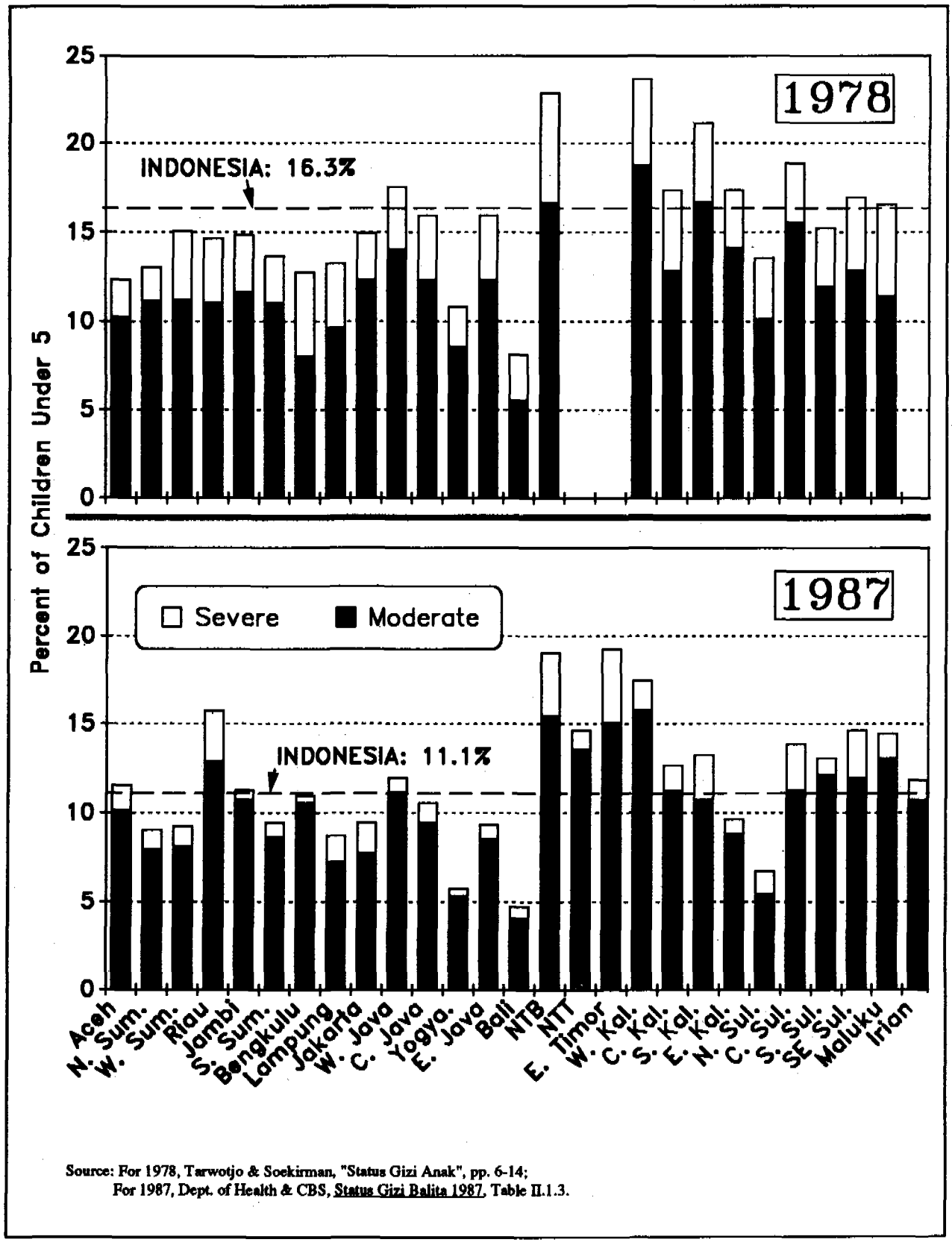
The proportion of undernourished children varies widely among the 27 provinces. SUSENAS data for 1987 are plotted in Figure 3.10, together with data from another large survey carried out in 1978. The proportions of moderately- and severely-undernourished decreased by about 32 per cent over the period, accounting for just over 16 per cent in 1978 and 11 per cent in 1987. Most provinces cluster fairly closely around the national average in both years, though a few--West Nusa Tenggara (NTB), West Kalimantan and South Kalimantan in 1978, and NTB, East Timor and West Kalimantan in 1987--show markedly higher levels. Undernutrition in Bali and Yogyakarta, on the other hand, was exceptionally low in both years.

Figure 3.9. Percent of Under-Five Children with Adequate Nutritional Status by Age Group, 1987 (80% or more of standard weight for age)



Source: Dept. of Health & CBS, Status Gizi Balita 1987, Table II.1.3.

Figure 3.10. Child Malnutrition: Moderate and Severe by Province, 1978 and 1987



Source: For 1978, Tarwotjo & Soekirman, "Status Gizi Anak", pp. 6-14;
For 1987, Dept. of Health & CBS, Status Gizi Balita 1987, Table II.1.3.

Among the island groupings, Nusa Tenggara had the highest level of severe undernutrition in 1987, as well as the greatest prevalence of moderate undernutrition (Table 3.16). Bali, however, which is included in the Nusa Tenggara group, has the lowest total of moderate and severe undernutrition among all the country's 27 provinces.

Table 3.16. Nutritional Status and Child Population by Island, 1987 (%)

	Sumatra	Java	Nusa Tenggara	Kalimantan	Sulawesi	Maluku + Irian Jaya	INDONESIA
Per cent of total under-five children (1985)	22.6	56.7	6.1	5.1	7.1	2.3	100.0
Adequately nourished	48.9	49.4	49.1	40.6	50.1	44.1	48.7
Mild undernutrition	41.1	40.1	36.3	45.4	37.6	42.0	40.2
Moderate undernutrition	8.7	9.5	12.3	12.3	10.8	11.9	9.8
Severe undernutrition	1.4	1.1	2.3	1.8	1.5	1.3	1.3

Source: Dept. of Health & CBS, Status Gizi Balita 1987, Table II.

3. Other Nutritional Problems

The sheer numbers of Indonesian children who suffer from some degree of Protein Energy Malnutrition (PEM)--11 million, according to the 1987 SUSENAS--has sometimes distracted attention from other nutritional problems. The most important of these are deficiencies in iron, iodine and vitamin A.

Vitamin A Deficiency

Vitamin A plays a significant role in several aspects of human health. Perhaps the most commonly known is xerophthalmia (literally "dry eye"), which is a general term covering a variety of vision-related disorders ranging from night blindness through physical damage to the eye's cornea to permanent blindness. Vitamin A also affects bone growth, reproductive development and immune response to infection, notably diarrhoea, respiratory infections, measles and tuberculosis. Moreover, data based on field studies in Indonesia have suggested that vitamin A deficiency may contribute to child morbidity and mortality not only through increased risk from infections and more general forms of malnutrition, but as an independent factor which may itself predispose to infection and increased health risk.

Vitamin A in the form most efficiently taken up by the human body is found in foods of animal origin--meat (especially liver), eggs and dairy products. Green leafy vegetables and yellow and red fruits are also sources of vitamin A.

Vitamin A can be stored in the body, and a healthy person will normally have several months' supply stored in the liver. The ability to build up stores of vitamin A is present even in early infancy--an additional reason for concern about the mother's vitamin A status

during breastfeeding. If the mother's diet is inadequate to meet the vitamin A needs of her own body, this deficiency will be passed along to the child.

The role of vitamin A in strengthening the body's immune system has already been noted. The association between vitamin A deficiency and measles appears to constitute a particularly dangerous threat to young children because measles reduces the reserves of vitamin A and thus renders the subject more susceptible to complicating infections of which pneumonia and diarrhoea are the most common. As noted earlier in the discussion of child morbidity and mortality, measles itself is a relatively infrequent cause of infant and child death, but diarrhoea and acute respiratory infections together account for more than half of all cases of illness, both in infancy and early childhood, and more than a quarter of all deaths in the under-five population.

The prevalence of vitamin A deficiency in Indonesia is high, and the country has been identified by WHO as having significant health problems related directly to deficiency of vitamin A. Fortunately, this has been recognized by the Indonesian government, and a prevention and control programme has been underway since 1972. At the time of the 1984 Situation Analysis, it was estimated that about 375,000 under-fives were suffering from vitamin A deficiency, of which about a third were expected to become blind as a result. That analysis, however, stressed the ocular symptoms of the deficiency--xerophthalmia--giving only passing notice to its important association with infectious diseases which often precede xerophthalmia, and to the significant role it apparently plays in the overall morbidity and mortality picture.

Iodine Deficiency Disorders (IDD)

Iodine deficiency disorders (IDD) "includes a spectrum of crippling conditions affecting the health and well-being of mankind starting from early in foetal life through to adulthood."* Iodine in very small quantities is essential for normal growth and development, particularly of those functions most directly affected by the central nervous system. Iodine deficiency may lead in its mildest form to thyroid enlargement and goitre, or to more serious problems of mental retardation, delayed motor milestones, speech and hearing impairment, and neuromuscular disorders of varying severity. In its most extreme form it causes neurological cretinism, characterized by severe mental retardation, deaf-mutism, dwarfism and other gross mental and physical disabilities.

The adverse affects of iodine deficiency may begin long before birth. Foetal brain development in an iodine-deficient mother may be impaired, leading in many cases to spontaneous abortion or stillbirth. Even if delivery is normal, the physical or mental consequences of maternal iodine deficiency on the newborn child are likely to be irreversible.

Maternal hypothyroidism increases the risk of congenital defects, spontaneous abortion and stillbirth. Treatment of expectant mothers with iodine not only reduces these risks but also results in improved birth weight.

Decreased productivity, delayed or incomplete mental development with consequent effects on educability, and reproductive failure are some of the possible outcomes of iodine deficiency. The costs to the community in terms of special education requirements, treatment, and poor productivity levels may be very substantial in some areas.

The usual cause of iodine deficiency in human populations is a lack of iodine in the natural environment. Where the iodine content of the soil has been reduced through erosion, leaching, past glacial action or frequent flooding, the locally produced components of the human diet may contain inadequate iodine to support good health. In areas where this is the case, the only solution is iodine supplementation in some form. The oldest and most common form of supplementation is salt fortification, though other approaches, including injection with iodized oil, are also employed.

South and Southeast Asia as a region has more people affected by iodine deficiency disorders, and at higher levels of severity, than anywhere else in the world. Within this group of nations Indonesia is at the low end in terms of prevalence, though in terms of people affected (more than 10 million) it is exceeded only by India (Table 3.17).

*WHO, Iodine Deficiency Disorders in South-East Asia, 1985, p.1.

Table 3.17. Prevalence of IDD in Eight South and Southeast Asia Countries with A Significant IDD Problem

	Total pop. (est. 1985)	Endemic goitre		Endemic cretinism		Other IDD*	
		No.	%	No.	%	No.	%
Indonesia	164,047,000	10,368,000	6.3	767,000	0.5	3,684,000	2.2
Bangladesh	97,438,000	10,230,000	10.5	491,000	0.5	2,796,000	2.9
Bhutan	1,446,000	933,000	64.5	95,000	6.6	704,000	48.7
Burma	39,920,000	5,700,000	14.3	400,000	1.0	2,591,000	6.5
India	746,000,000	54,540,000	7.3	3,338,000	0.5	18,053,000	2.4
Nepal	16,386,000	9,438,000	57.6	736,000	4.5	5,145,000	31.4
Sri Lanka	16,099,000	3,107,000	19.3	140,000	0.9	580,000	3.6
Thailand	52,708,000	7,927,000	15.0	539,000	1.0	3,331,000	6.3

*Includes cretinism and measurably reduced mental/motor function.
Source: WHO, Iodine-Deficiency Disorders in South-East Asia, 1985, p. 14.

A high prevalence of goitre has been known in Indonesia for centuries. Specific studies have noted prevalence rates of over 80 per cent in specific villages, and endemic cretinism in these areas has reached as much as 15 per cent of the population. These are among the highest rates ever reported.

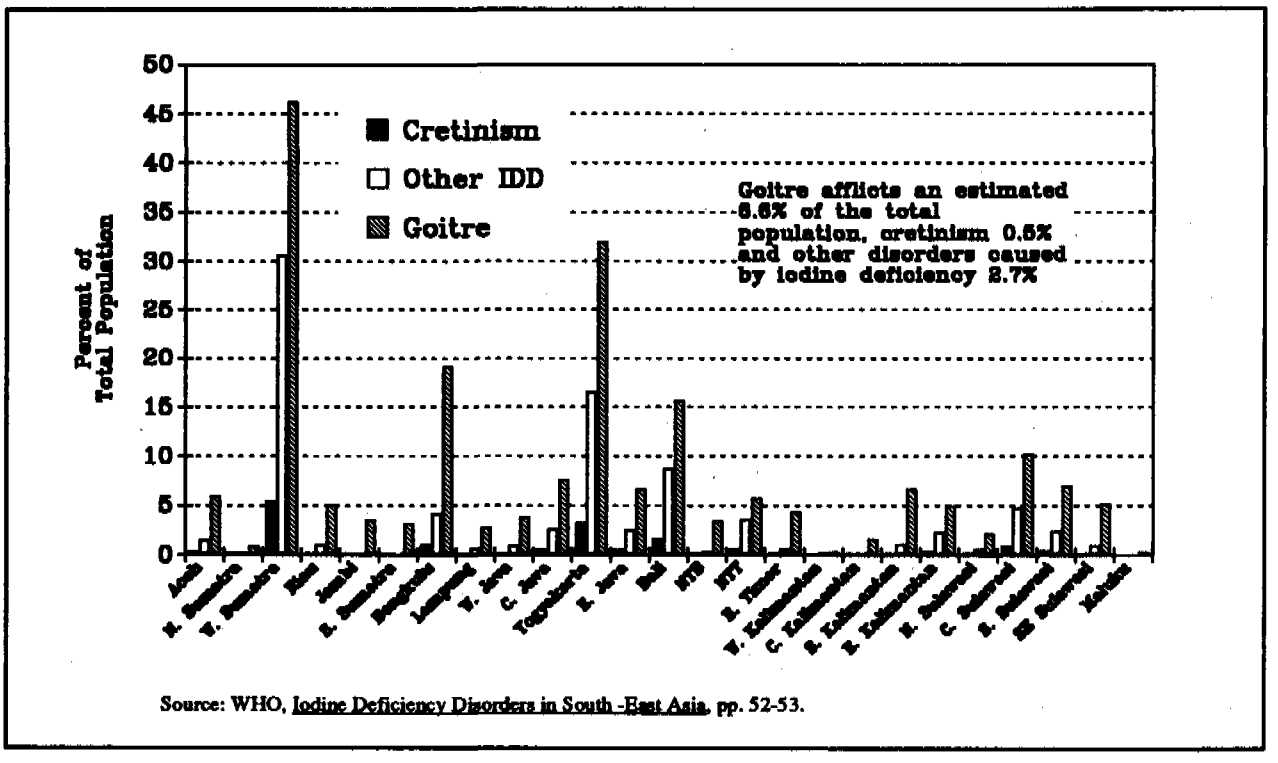
Since the early 1970s iodine deficiency has been officially recognized as one of the four major nutritional problems in the country. A national goitre prevalency survey covering school children in 26 provinces (all except Jakarta) was conducted in 1980-82. The findings are shown in Figure 3.11 by province, while Table 3.18 summarizes the main features of the problem for the country as a whole.

Table 3.18. Estimated Prevalences of Goitre, Cretinism and Other Forms of IDD, 1980

Total goitre rate stratum	Population at risk in each stratum		Endemic goitre		Cretinism		Other IDD	
	No.('000)	%	No.('000)	%	No.('000)	%	No.('000)	%
<10% (i.e., no risk)	120,090	81.5	--	--	--	--	--	--
10-29%	15,324	10.4	3,065	20.0	31	0.2	15	0.1
30-49%	6,925	4.7	2,770	40.0	194	2.8	665	9.6
50-69%	2,652	1.8	1,591	60.0	212	8.0	1,087	41.0
70% +	2,358	1.6	1,886	80.0	252	10.7	1,542	65.4
Total	147,349	100.0	9,312	6.3	689	0.5	3,309	2.2

Note: Population figures are for 1980. Totals may not add up owing to rounding. Percentages refer to percentage of stratum affected.
Source: WHO, Iodine-Deficiency Disorders in South-East Asia, 1985, p. 53.

Figure 3.11. Estimated Cases of Goitre, Cretinism and Other Iodine Deficiency Disorders As a Percentage of the Total Population, 1980 by Province



Source: WHO, Iodine Deficiency Disorders in South -East Asia, pp. 52-53.

The most striking aspect of Figure 3.11 is the great inter-province variation in IDD prevalence. West Sumatra shows a far higher prevalence rate than any other province; the survey estimates indicate that over 45 per cent of this province's population suffers from goitre, about 5 per cent from cretinism and 30 per cent from other disorders resulting from iodine deficiency. At much lower levels, but still high relative to the national prevalence rates, are Yogyakarta, Bengkulu and Bali.

Due to the large differences in population among the provinces, IDD prevalence expressed in numbers of persons affected shows a somewhat different pattern. By this measure West Sumatra, with an estimated 200,000 cases of cretinism and 1.1 million cases of other IDD, is still at the top of the list, with many more cases of these iodine deficiency disabilities than any other province. This province accounts for around a quarter of the total in both categories. The very large provinces of West, East and Central Java, however, have substantial shares of the total IDD even though their prevalence rates are relatively low. Taken together, the provinces of Java, along with Bali, account for approximately 60 per cent of the estimated total of all types of IDD. Among these, Yogyakarta stands out; with only 1.8 per cent of the total population it has about 10 per cent of the total number of IDD cases.

Recognizing iodine deficiency as a serious nutritional problem, the Indonesian government embarked in 1974 upon an iodine deficiency control programme, becoming one of the first countries in Asia to do so. The programme adopted a two-pronged approach: prevention of goitre and other iodine deficiency disorders through salt iodation and, in endemic areas, prevention or treatment through injection with iodinated oil.

These basic elements of the programme are still in place. Much of the salt sold on the general market in Indonesia comes from many small-scale facilities scattered throughout the country, however, and this fact has hindered implementation of the national policy to fortify all salt intended for human consumption. In addition, the general public is not well informed about the conse-

quences of iodine deficiency and the benefits of iodated salt. Consumer demand for fortified salt, therefore, is often weak, particularly since its price is slightly higher than the non-iodated variety.

An estimated 5 million persons were treated with iodinated oil during the Repelita III period (1979-1983), and an additional 4 million were injected in the first 3 years (1984-1986) of Repelita IV. This method of direct iodine supplementation affords protection against deficiency for a period of about 5 years. Its major drawback is that it is relatively expensive, though in recent years the unit cost has been reduced through the domestic production of the iodinated oil. Oral capsules provide a newer alternative for direct supplementation which promises to be both less costly and more easily administered. This method is still under consideration in Indonesia, however, and is not yet available through the national iodine deficiency control programme.

Nutritional Anaemia (Iron Deficiency)

Chronic deficiencies in iron are common among large segments of the population in many countries. This mineral affects oxygen delivery via the blood to body tissues, and symptoms of deficiency include listlessness, fatigue and a general feeling of poor health. Menstruating women require more iron than adult men,* and pregnancy adds greatly to the amount women need to maintain their own health as well as that of their unborn children. It is well established that Indonesian women, at least during pregnancy, are highly prone to iron deficiency anaemia. The last Situation Analysis reported an estimated 70 per cent of all pregnant women to be affected, with consequent higher risk of complications during pregnancy and delivery and of stillbirth, prematurity and low birth weight. This increased risk is of course reflected in higher maternal and infant mortality rates. A study of maternal cases from 12 teaching hospitals in Indonesia in the late 1970s showed the maternal mortality rate to be more than 3.5 times as high among anaemic women as among those who were non-anaemic.

Available evidence suggests that the situation with respect to nutritional anaemia has changed little in recent years. The 1986 Household Health Survey tested haemoglobin levels among more than 3,300 pregnant women. Using the WHO standard classification for anaemia, the results are as shown in Table 3.19.

Table 3.19. Iron Deficiency Anaemia Among Pregnant Women, 1986 (grams of haemoglobin per decilitre of blood)

	Yogya-karta %	Bali %	North Sulawesi %	Beng-kulu %	West Kal. %	Maluku %	W. Nusa Tenggara %	Total %
Normal (11 g/dl or above)	42.5	18.8	45.1	29.1	12.8	26.0	24.3	26.3
Moderate anaemia (8-10.9 g/dl)	57.5	78.9	52.1	67.4	76.4	71.4	74.7	69.7
Severe anaemia (<8 g/dl)	--	2.3	2.8	3.5	11.2	2.6	1.0	4.0
Average g/dl	9.3	8.7	9.2	8.1	8.0	8.7	8.7	8.7

Source: Breastfeeding Situation Survey Kesehatan, p. 118.

*In the United States, for example, the recommended daily allowance (RDA) for iron is 10 mg for men and 18 mg for women.

Overall, these tests reveal that close to three-quarters of the sample were anaemic, 4 per cent at severe levels. There are substantial differences among the 7 provinces, with Yogyakarta and North Sulawesi having much higher proportions of women in the normal range and higher average haemoglobin levels. Pregnant women in West Kalimantan are significantly more likely to be severely anaemic. The average haemoglobin level in West Kalimantan, at 8.0 g/dl, is barely above the severe anaemia level.

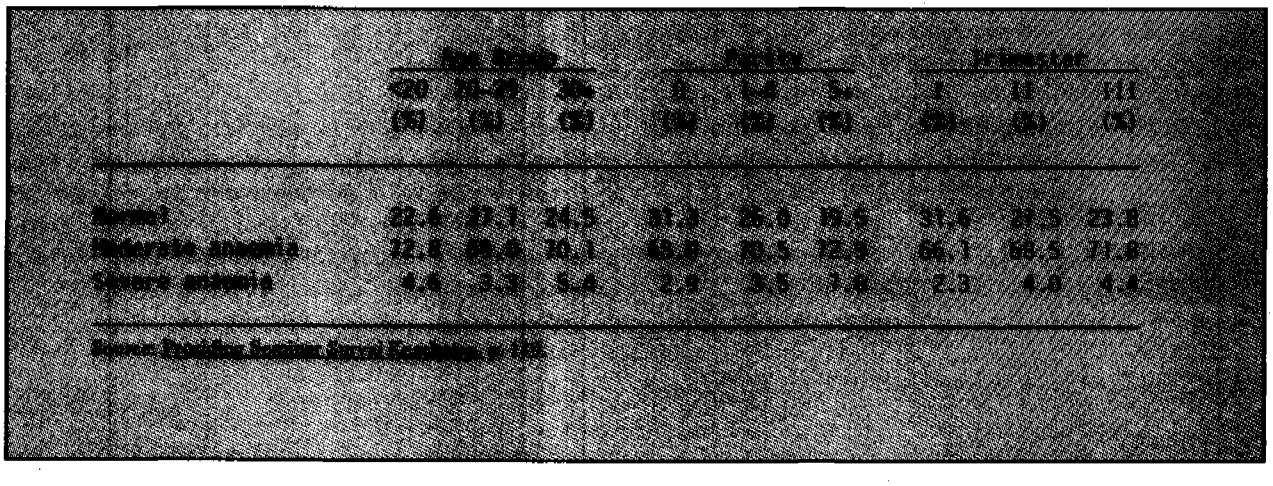
What makes nutritional anaemia of special concern in Indonesia is that it has a known close relationship with general maternal health and with specific problems related to childbirth and the well-being of both mothers and infants in the perinatal period. Maternal mortality in Indonesia is very high; low birth-weight prevalence is high; infant mortality is high. The 1986 health survey found 7 per cent of all deaths in the survey (non-specific as to age or sex) to be related to complications of pregnancy and childbirth and perinatal anomalies. Anaemia, in conjunction with other factors such as poor general nutritional status, high rates of parasite infestation, close pregnancy intervals, high average parity, and inadequate sanitation and hygiene, comprise a set of conditions which make pregnancy and childbirth a very risky matter for both women and their newborn children.

Closer examination of health survey data confirms the interaction between anaemia and other maternal risk factors (Table 3.20). High-risk pregnancies in the below-20 and 30-and-above age groups have higher anaemia prevalence rates than the 20-29 group, particularly at severe levels. Women in a fifth or subsequent pregnancy show 80 per cent anaemia prevalence, with 7.6 per cent severe. This is about 11 per cent above those pregnant for the first time and 3 per cent higher than those of parity 1-4 for moderate anaemia, and well over twice as high at severe levels. As would be expected, anaemia tends to increase, at both moderate and severe levels, as pregnancy progresses from trimester I to III.

It was noted above that high prevalence rates for nutritional anaemia, especially during pregnancy, are common in many countries, not excluding rich nations where dietary adequacy is not normally a significant health problem. Iron requirements during pregnancy are in fact rather difficult to satisfy through normal dietary intake, as iron absorption from food--even iron-rich food--is poor. As a gross average, perhaps 10 per cent of food iron is taken up by the body, though with some foods, such as red meat and liver, the absorption rate (20 per cent to 30 per cent) is far higher than for plant foods containing iron (about 5 per cent).

For both cultural and economic reasons many Indonesians eat relatively little meat, making it even more difficult to achieve minimum iron adequacy through diet alone. Thus, iron supplementation during pregnancy is probably the only satisfactory solution to nutritional anaemia for expectant mothers, in conjunction with better dietary habits, prenatal care and improved health conditions and practices.

Table 3.20. Prevalence of Iron Deficiency Anaemia among Pregnant Women by Age Group, Parity and Stage of Pregnancy, 1986



D. PRIMARY HEALTH CARE (PHC) FOR MOTHER AND CHILD WELFARE

1. PHC Implementation: *Puskesmas* and *Posyandu* Services

The primary health care approach in Indonesia addresses the problems of availability, accessibility and appropriateness of health services. PHC shifts the traditional emphasis from a few central institutions to the areas of greatest need, the local communities. The underlying concept recognizes that the greatest resource for health is the potential of the people to take care of themselves.

A major impediment to child survival is the limited availability of health services that can effectively address local health needs. The ultimate outcome of efforts to improve child survival is subject to the economic, social and political conditions which affect the distribution of health services and how they are used. Indonesia's economic development has a direct influence on the resources devoted to health care. The availability, accessibility and appropriateness of health services are closely related to one another, and are vital determinants in the ultimate goal of improving child survival.

Since the 1970s public health services in Indonesia have supported the development of community-based health programmes as a key approach to improving effectiveness, equity and efficiency. Volunteer *kaders* have been an important component in health, family planning, youth and women's affairs, and home affairs programmes.

The *Puskesmas* (Community Health Centre) and the community-organized activities at the *Posyandu* (Integrated Service Delivery and Nutrition Post) are the primary vehicles for delivery of health and nutrition services for young children and mothers.

The community health centre remains the cornerstone of the Indonesian public health system. A fully staffed *Puskesmas* is headed by a doctor, assisted by several trained professional or paraprofessional staff: midwife, vaccinator, nurse, sanitarian and other. A large health centre may employ 25 or more professional or paraprofessional staff. Health Department figures show that as of August 1987, about 90 per cent of all health centres have medical doctors, and the average centre has nearly 7 nurses.

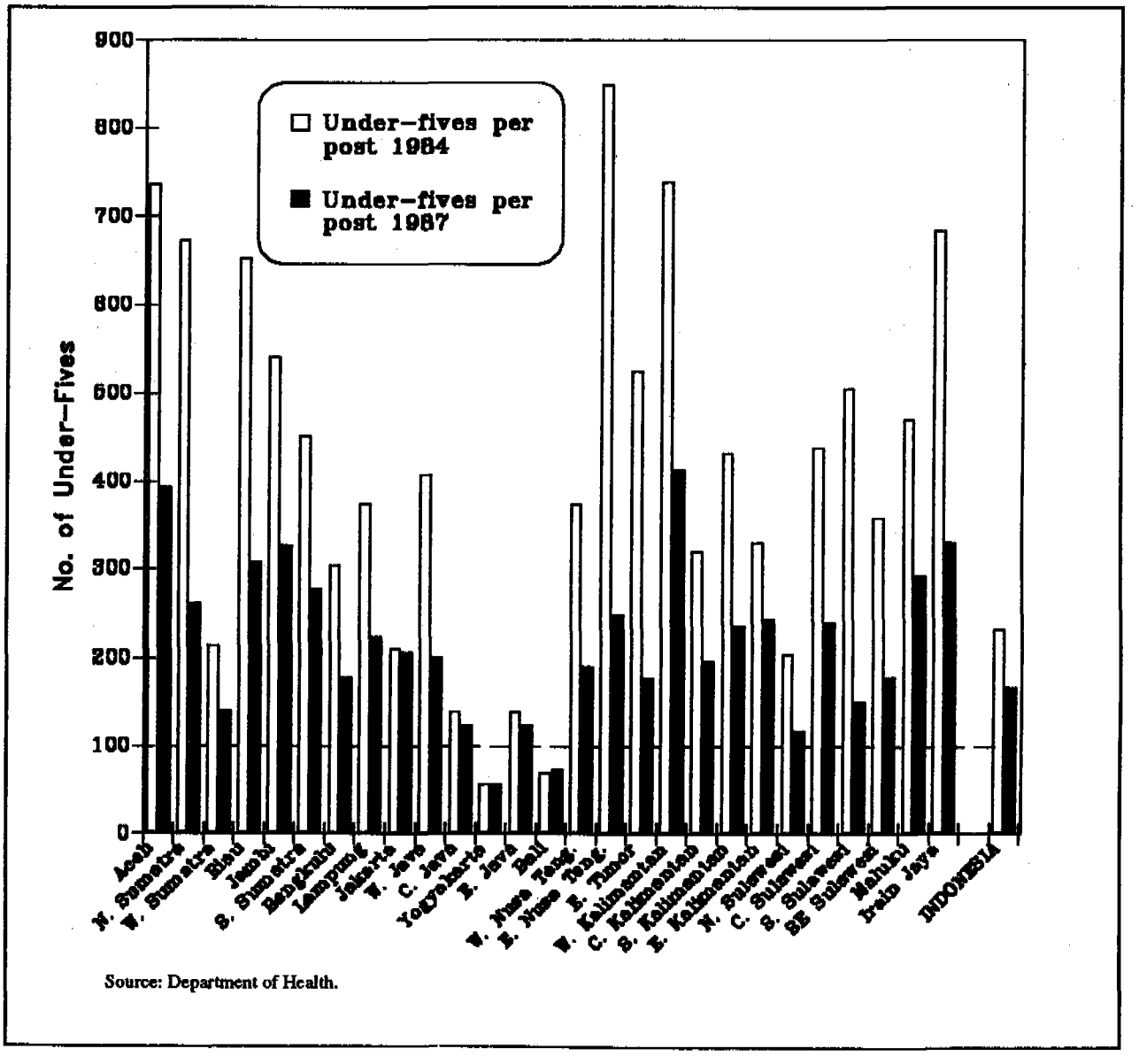
There are currently more than 5,500 *Puskesmas* in the country, at least one in every sub-district (*kecamataan*) and each serving an average of over 32,000 persons. Overall, one *Puskesmas* attempts to meet the basic health needs of the population living in an area of 359 km^2, though of course this figure varies greatly among provinces--from 31 km^2 in Yogyakarta and 50 km^2 in Central Java to 1,500 km^2 or more in Central and East Kalimantan and Irian Jaya. If all service areas were circular, with the *Puskesmas* in the centre, the distance from health centre to the area boundary would be about 3 km in Yogyakarta, 25 km in East Kalimantan and 32.5 km in Irian Jaya.

The *Posyandu*, staffed and managed by community volunteers, is often the point of first contact for basic health services, a place where problems can be detected early and referred for more specialized care and treatment. The *Posyandu* uses the UPGK (Family Nutrition Improvement Programme) weighing post to integrate the delivery of 5 primary health services--growth monitoring, family planning, diarrhoeal disease control through ORT, maternal care and immunization--though in reality many posts still do not provide the complete range of services. For statistical purposes the Department of Health counts posts offering any 2 of the 5 services as a *Posyandu*. For historical reasons, child weighing, immunization and family planning are the most commonly available.

Functioning as an integrated service delivery post, the *Posyandu* is oriented primarily toward preventive and promotive health and nutrition services for children and mothers and family planning services. These posts comprise an important community-organized activity to improve child and maternal well-being.

Accessibility to health services has a decisive influence on health care and child survival. Accessibility can be measured in terms of distance or in terms of affordability of services. The current objective is to provide one integrated service post for every 100 under-fives in the country. By March 1987 an estimated 134,000 posts had been established in more than 40,000 villages, bringing national coverage to one post for every 170 children.* Only Bali and Yogyakarta have reached the target of one post per 100 children; in most provinces the average is still 200 or more, and in extreme cases (West Kalimantan and Aceh) the figure is around 400 (Figure 3.12). Not surprisingly, increasing the number of posts in villages already having one or more posts has been easier, and has taken place at a faster rate, than establishment of new posts in villages where none existed before.

Figure 3.12. Number of Under-Fives Per Integrated Service Post, 1984 And 1987 By Province



Source: Department of Health.

* More recent data (as of March 1988) indicate that a total of 215,000 posts have been established in more than 50,000 villages. This extremely rapid expansion--by 60 per cent in a single year--is the result of a deliberate effort to telescope Posyandu targets so as to achieve universal access to basic services for under-fives in the 10 most populous provinces by early 1988. Nationally, over 80 per cent of all young children now have access to *Posyandu* services.

In many places, the major challenge is not the number if children to be served but the area to be covered. Where the population is relatively scattered and transport and communication facilities are poor (most notable in E. Nusa Tenggara, Maluku, Irian Jaya and much of Kalimantan), effective coverage is particularly problematic. As Table 3.21 shows, the provinces in Java and Bali have a very small average service area per post--2 km^2 or less--but correspondingly large child populations. These small service areas imply a distance of less than 1 km from any household to a *Posyandu*. Elsewhere the distance ranges from 2 to nearly 15 km.

While there is still far to go, the addition of more than 14,000 posts per year between 1984 and 1987 suggests that the access target of one post per 100 children is achievable throughout most of the country in the foreseeable future.

While the organization and routine operation of the *Posyandu* are community responsibilities, its successful functioning depends heavily on technical and material support from the area's *Puskesmas* staff. The *Puskesmas* doctor has overall responsibility for supervision of posts within the *Puskesmas* area, arranging and assisting in training volunteer workers (*kaders*), scheduling visits for vaccinators, midwives and other specialized health staff, and ordering and distributing supplies and equipment such as ORS, growth charts and weighing scales, and vitamin A and iron folate tablets. In 1984, there were 17 weighing posts per *Puskesmas* nationally; by 1987, with the rapid expansion of the system, the national average had risen to 25 posts per *Puskesmas*. On

Table 3.21. Average Area Served per Integrated Health Post and Child Population Density, 1987

	Number of Posyandu	Service area (km^2) per post	Under-fives per km^2	Service area radius (km)
DI Aceh	1,186	47	8	3.9
North Sumatra	5,748	12	21	2.0
West Sumatra	4,000	12	11	2.0
Riau	1,330	11	4	1.9
Jambi	874	51	6	4.0
South Sumatra	3,082	34	8	3.3
Bengkulu	884	25	7	2.8
Lampung	4,513	3	30	1.5
DKI Jakarta	5,180	1	1,784	0.2
West Java	22,200	2	97	0.8
Central Java	26,550	1	98	0.6
DI Yogyakarta	4,826	1	89	0.5
East Java	28,443	2	75	0.7
Bali	3,891	1	93	0.7
West Nusa Tenggara	2,607	8	25	1.6
East Nusa Tenggara	1,670	25	10	2.9
East Timor	582	25	7	2.8
West Kalimantan	1,068	139	3	6.6
Central Kalimantan	914	161	1	7.3
South Kalimantan	1,246	30	6	3.1
East Kalimantan	1,082	102	1	5.7
North Sulawesi	2,430	6	15	1.4
Central Sulawesi	988	11	3	2.0
South Sulawesi	5,678	15	12	2.0
Southeast Sulawesi	1,110	25	4	2.9
Maluku	940	15	4	2.2
Irian Jaya	728	580	1	13.6
INDONESIA	133,186	14	12	2.1

Source: Department of Health.

a provincial basis this ratio ranges between 6 and 10 posts per *Puskesmas* in some of the larger and most sparsely populated provinces to as many as 40-45 posts for each *Puskesmas* in Bali and parts of Java.

The proliferation of *Posyandu* clearly puts an increased burden on the human, financial and managerial resources of the *Puskesmas*, especially considering that many *Puskesmas* are understaffed and lack adequate transport. The challenge is to balance the establishment of *Posyandus* with strengthening of the technical and logistical support systems on which they depend.

2. Essential PHC Services

The following essential services and programmes are the basic framework of the PHC approach. All have a direct relationship to child survival and development.

Expanded Programme on Immunization (EPI)

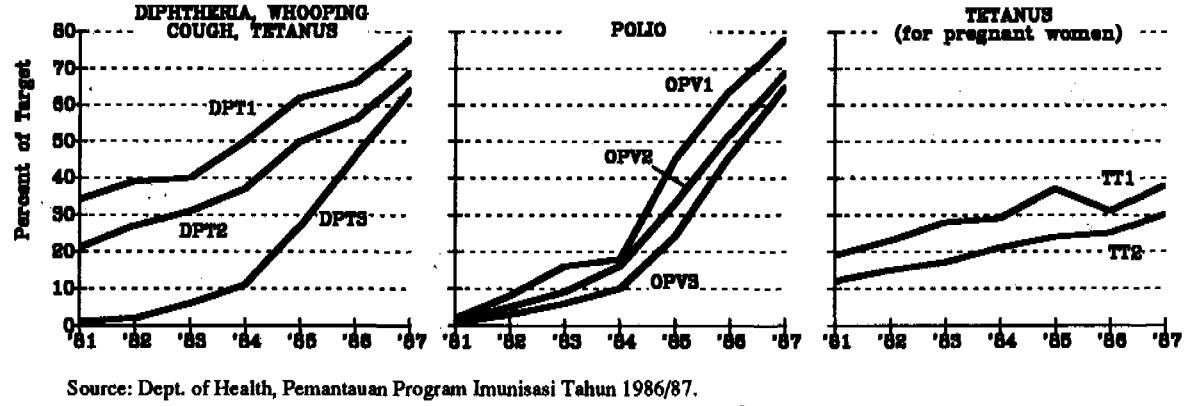
Immunization is recognized as a key approach in existing child survival services. The World Health Organization's Expanded Programme on Immunization (EPI), with the support of USAID, UNICEF and other major donor organizations, is an ambitious effort to establish universal immunization against six common childhood diseases: measles, diphtheria, pertussis, tetanus, poliomyelitis and tuberculosis. Because the targetted diseases strike during infancy, effective immunization must occur before a child's first birthday. However, some vaccinations cannot be given too early because they can be neutralized by the mother's passive immunity. This means that there is a relatively short period during which effective immunization can be accomplished.

Impressive achievements in EPI access and coverage were recorded in Repelita IV (1984-1989): the goal of providing complete immunization against the six EPI diseases for 65 per cent of the population (ages 2-11 months) by the end of the Plan period (March 1989) was met in 1988. Complete coverage for 80 per cent of all infants by 1990--the Universal Child Immunization goal endorsed by the United Nations General Assembly in 1986--appears to be achievable in Indonesia. This target will likely be formalized in the 1989-1994 Repelita V plan.

By March 1987, all EPI vaccines were available through 96 per cent of all health centres, up from 60 per cent in 1982. Thus the goal of universal access to immunization services has been virtually achieved, about a year earlier than planned. The expansion of EPI access has been a major factor in the continuing increases in coverage that Indonesia has achieved over the last five years (Figure 3.13).

Further increases in coverage, however, will require strategies based on building social awareness, intensifying community mobilization and maintaining

Figure 3.13. Immunization Coverage of Multiple-Dose Vaccines, by Individual Dose 1981 - 1987



Source: Dept. of Health, Pemantauan Program Imunisasi Tahun 1986/87.

political support through sustained advocacy at all levels, as well as continued improvements in service delivery.

The significant improvements in EPI access and coverage reflect several positive political and social conditions within Indonesia: continuing strong political commitment to EPI; improved technical capacity to deliver EPI services; and increased effort in social mobilization by both government and NGOs to encourage utilization of available EPI services. At the same time, measures have been taken to improve the quality of EPI services--for example, through the introduction of steam sterilization and a one-syringe/one-needle policy in 13 provinces as of March 1989.

The improved technical capacity to expand and sustain the EPI service delivery system has been made possible through the training of nearly 4,500 new vaccinators, expansion of cold room facilities in 4 provinces for safer vaccine storage and more effective distribution, and the introduction of a local area monitoring (LAM) system which facilitates analysis of strengths and needed improvements in district EPI activities. The LAM system has already shown promise as an important mechanism for increasing coverage by directing attention to specific conditions, constraints and opportunities in each district.

There are already significant examples of community mobilization and advocacy for EPI, by both government and NGOs. President Soeharto has himself lent support by being photographed administering polio vaccine to an infant. A poster made from this photo has been widely distributed. The Department of Home Affairs has been instrumental in gaining the support and active involvement of provincial governors and other government officials and local leaders. For example, in an important tetanus toxoid campaign on Lombok Island, West Nusa Tenggara--in which 95 per cent of all women of childbearing age received two doses of TT vaccine--leadership and coordination by the provincial governor and district heads were critical to the campaign's success.

In the non-governmental sector, the largely female membership of the Family Welfare Movement (PKK) is helping both to recruit new users of EPI services and to reduce the drop-out rate for the multiple-dose DPT and polio vaccination series. In addition, 12 major Islamic, Catholic, Protestant and Hindu NGOs, with approximately 10 million members in 11 provinces, are involved in a GOI-UNICEF programme to incorporate motivational messages on immunization and oral rehydration therapy into regular religious education activities. The counterpart government department in this case is the Department of Religious Affairs.

Maternal and Child Health (MCH) and Family Planning (FP)

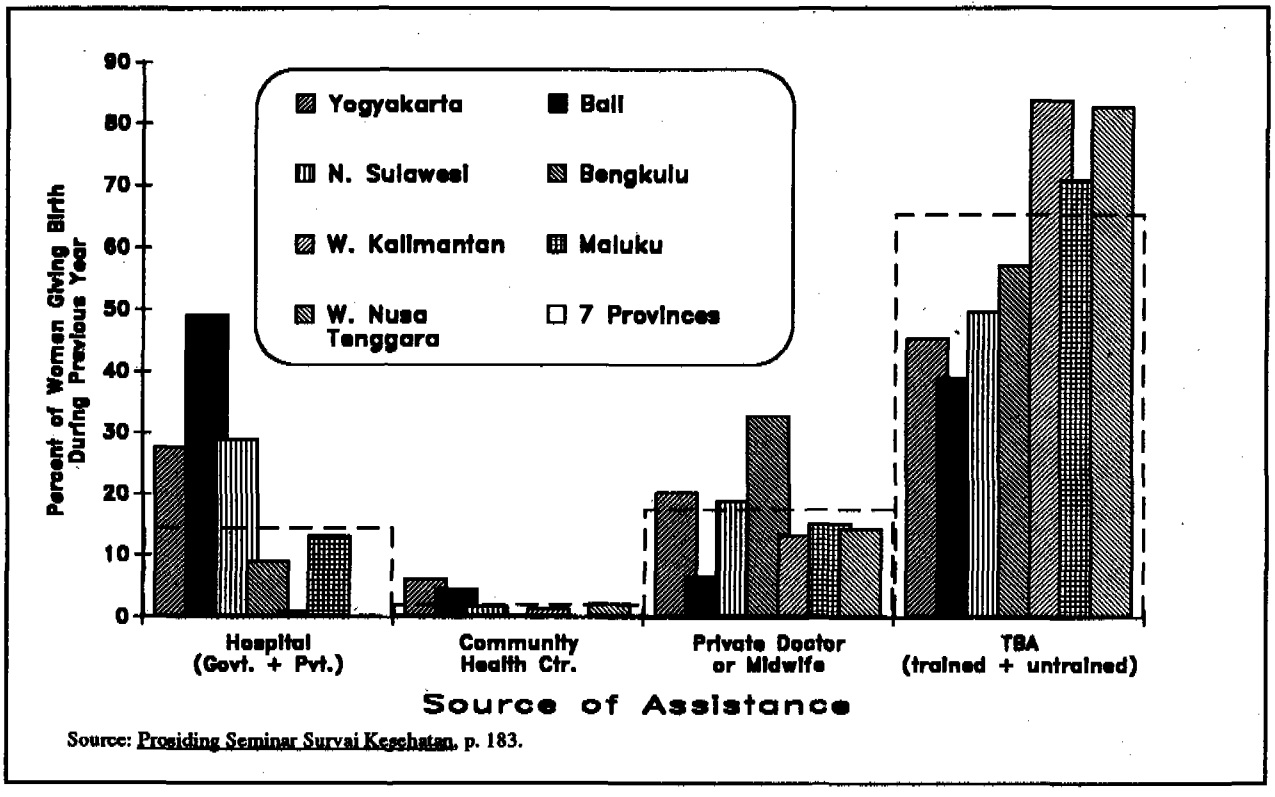
The Indonesian MCH programme attempts to meet the special health needs of mothers, pregnant women and newborn children through: (1) promotion of attitudinal and behavioural changes conducive to safer delivery and better child health; (2) improvement in the quality of care provided by traditional birth attendants (TBAs), who continue to play a dominant role in childbirth in Indonesia; (3) referral of high-risk pregnancy cases for professional assistance in delivery; (4) encouragement of breastfeeding; and (5) dietary supplementation to prevent iron deficiency anaemia.

For more than two decades, the government's MCH programme has recognized the importance of the TBA in birth delivery services, including ante-natal and post-natal care. Figure 3.14 presents the findings of the 1986 Household Health Survey concerning birth delivery practices in 7 provinces, mostly outside Java. About two-thirds of the childbirths take place at home with assistance from TBAs. Other deliveries in the home, but attended by a doctor or trained midwife, accounted for an additional 18 per cent. Thus more than 4 out of 5 births take place in the home where sanitary conditions are difficult to control.

With 65 per cent of all childbirths assisted by traditional birth attendants the continued need for TBA training is obvious. According to the 1983 data reported in the last Situation Analysis, there were nearly 103,000 registered TBAs in the country, of whom more than three-quarters had received at least one course of training. According to the Household Health Survey, however, about 70 per cent of the recorded TBA deliveries were assisted by untrained TBAs. The apparent inconsistency in these data may come from many of the mothers interviewed in the survey being unaware whether the TBA was trained or not.

Community health centres (*Puskesmas*) have long provided ante-natal care and post-natal services. More recently the *Posyandu* system has begun to introduce these services through periodic visits of health staff to *Posyandu*. Of course, ante-natal care is also provided

Figure 3.14. Sources of Assistance in Childbirth



Source: Prosiding Seminar Survai Kesehatan, p. 183.

by hospitals, private medical practitioners and TBAs. However, health survey findings, presented in Figure 3.15, clearly show that the *Puskesmas* is the dominant service point in all provinces surveyed, although there is considerable variation in the use of other facilities or health specialists. In Bali and Bengkulu, for example, there is a marked tendency to visit midwives in private practice; in West Nusa Tenggara TBAs are the most common source of ante-natal care.

One of the primary tasks of ante-natal care should be to identify high risk maternal cases, and to follow up once such identification is made. In addition, these women should receive priority attention from the family planning programme.

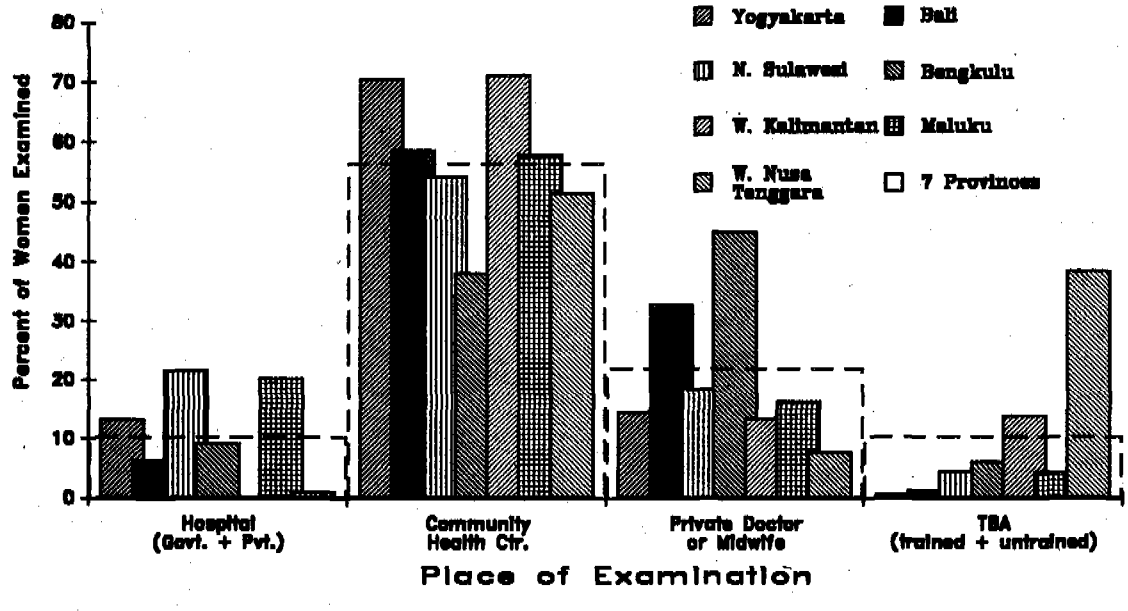
At current population and fertility levels, approximately 5.5 million Indonesian women are pregnant at any given time, representing 3.2 per cent of the total population.

While fertility has declined in recent years, undoubtedly due in substantial part to the vigorous family planning programme, the high birth rates of the 1960s and 1970s are now being reflected in large numbers of fertile-aged couples in the population. Their numbers are expanding by 600,000 to 800,000 each year.

In the context of MCH, this means that increasing numbers of women will require basic health services related to pregnancy, delivey and perinatal care. This growing number will put increased demands on the MCH programme which even at present is reaching only 50 per cent of its target group.

Recognizing that the success of other national development programmes rests heavily on the curbing of population growth, the Indonesian family planning programme was officially established in 1970. The programme is a direct effort aimed at reducing overall population growth and average family size through the use of contraceptives. Its successfull implementation has received world recognition.

Figure 3.15. Place of Prenatal Examination Among Women Examined



Source: Prosiding Seminar Survai Kesehatan, p. 182.

Family Nutrition Improvement Programme (UPGK)

As reported in the 1984 Situation Analysis, the UPGK's community-based growth monitoring and nutritional first aid activities have brought these services, together with health and nutritional counselling for mothers, to millions of Indonesian children and their parents. While in 1984/85 only about 40 per cent of the children in UPGK villages participated on a regular basis in the programme's activities, by the end of 1987 average attendance nation-wide had increased to about 80 per cent (approximately 10 million children under five).

Although there is still considerable scope for improvement in coverage and in the quality of UPGK services, substantial strengthening has occurred over the past five years, which can be attributed in large part to the following factors:

1. As noted above, the UPGK weighing posts have become the major focal point for the establishment of integrated service posts *(Posyandu)* which provide key basic services at community level. The availability of the four other services also helps increase attendance for UPGK activities.

2. Because the President has declared *Posyandu* as the national health strategy for the 1986-1996 Decade for Children, governors, district chiefs, city mayors, sub-district chiefs and village heads have given UPGK, as the usual initial activity for *Posyandu* , a higher priority than in the past.

3. The National Family Welfare Movement (PKK) has made support for UPGK and the *Posyandu* a very high priority, providing nearly one million volunteers, mostly women, from the nearly 50,000 villages (72 per cent of the total) where UPGK and other *Posyandu* services are available.

4. UPGK is itself an inter-sectoral programme, and the roles of each participating agency have been refined and strengthened over the last five years. The Health Department has the overall technical guidance role; the National Family Planning Co-ordinating Board (BKKBN) provides communication and monitoring support; the Religious Affairs Department has strengthened its role in community motivation and mobilization to encourage increased community use of UPGK and other *Posyandu* services; and the Agriculture Depart-

ment has incorporated information about UPGK into its agricultural extension programme.

5. Increasing literacy (86 per cent for males and 70 per cent for females in 1985) and the use of a wider variety of modes of communication, information and education have helped to generate greater community demand for UPGK and other *Posyandu* services and has increased participation of mothers.

Control of Diarrhoeal Diseases (CDD)

The national strategy for CDD emphasizes prevention of mortality from diarrhoeal dehydration rather than reduction in the incidence of diarrhoeal diseases. Given this strategy, the key objective to be achieved by the end of Repelita IV (March 1989) is to increase the use of ORT in treatment of diarrhoea cases to 46 per cent, a marked increase over the estimated 16 per cent in 1984/85.

As reported earlier in this chapter, an estimated 100,000 infants and children die each year from diarrhoea. Most of these deaths could be easily and inexpensively prevented by the proper use of oral rehydration therapy (ORT). In brief, ORT is a three-tiered strategy that combines administration of a simple solution of sugar and salts with continued feeding through a diarrhoeal episode and referral when appropriate. ORT stands as a model of appropriate child survival measures that are simple, effective and low in cost.

The strategic plan of Indonesia's diarrhoeal disease control programme at the beginning of Repelita IV (early 1984) was to upgrade selected health centres to specialize in diarrhoeal disease control through orientation of volunteer workers, provision of oral rehydration salts (ORS) and improved recording and reporting procedures. Something less than 20 per cent of the health centres were developed in this way before 1987, when the specialized health centre strategy was abandoned. Since the UPGK cadre training course covers oral rehydration therapy, and the nutrition programme provides ORS, there was not much difference in practice between the specialized control centre concept and the existing UPGK system. Under the current programme, any health centre area where volunteers are trained in integrated (*Posyandu*) services is considered appropriately oriented for diarrhoeal diseases control.

Operationally, the national strategy emphasizing mortality prevention implies ready access to ORS. In 1984/85 60 per cent of the population was estimated to have access to ORS, and 40 per cent of all *Puskesmas* were implementing diarrhoeal disease control programmes. The Repelita IV target is to have all *Puskesmas* actively promoting ORT, with essentially 100 per cent of the population having access to ORS. Another objective is to reduce the proportion of diarrhoea cases treated at health facilities as individual mothers and *Posyandu* cadres become familiar with oral rehydration therapy and able to administer it themselves.

Through existing programmes to distribute ORS, educate mothers and health workers in the techniques and benefits of oral rehydration therapy and otherwise encourage the widespread use of ORT, it is anticipated that by 1989 46 per cent of diarrhoea cases will be treated with ORT, as compared to an estimated 16 per cent in 1984. Impact targets for diarrhoeal disease control are as follows:

Indicator	1984/85 (estimate)	1988/89 (target)
Infant diarrhoea mortality rate (per 1000 live births)	22.1	16.0
Under-five diarrhoea mortality rate (per 1000 children 0-4 years)	7.7	5.0
Under-five diarrhoea incidence (episodes per child)	2.0	1.6

All health facilities now concern themselves with diarrhoea case management; a standard treatment plan has been developed and implementation is underway. Analysis of progress is difficult due to a lack of reliable baseline data and to the inherent difficulty of monitoring a disease that is usually not serious and is normally treated at home. Various surveys have found that from 25-50 per cent of mothers treat their children's diarrhoea with ORS at home, and another 5-15 per cent with sugar-salt solution.

Despite intensive efforts to reach children at risk, it is felt that the ORT strategy is still not being effectively applied in Indonesia. Success in improving access and coverage of ORT and related services for the control of diarrhoeal diseases has lagged behind that of the Family Nutrition Improvement Programme (UPGK) and the Expanded Programme of Immunization. A major reason for this may be the higher priority given to the UPGK and EPI from the mid-1980s onward.

Another reason cited for slower progress in the control of diarrhoeal disease is that the social and cultural values which shape community attitudes and behaviour with respect to diarrhoea are more complex and varied than for nutrition or immunization. Diarrhoea is considered a common ailment which all parents have experienced themselves; usually it is of short duration, with no perceived permanent effects; and it is often regarded as a natural part of growing up. Because of these attitudes, it is often difficult to arouse serious concern among parents and many health workers as well. Moreover, reliable incidence rates are difficult to obtain, making programme interventions difficult to evaluate.

Experience with CDD promotional and communication efforts, including a major CDD communication campaign in West Java, has shown that the most cost-effective approaches to increasing ORT coverage have yet to be fully developed and utilized.

Acute Respiratory Infection (ARI)

Acute respiratory infections are being given increasing attention in the Indonesian health programme. Except for those that are vaccine-preventable, these infections have in the past been overshadowed by other pressing health concerns. Growing awareness of the magnitude and implications of ARI and the increasing number of possibilities for prevention and cure have stimulated more interest in this problem. It is now recognized that improving child survival requires a direct confrontation of this major cause of childhood mortality.

Existing approaches include immunization and drug therapy, and preventive measures to reduce the risk of infection. Four of the most important respiratory infections--measles, diphtheria, pertussis and tuberculosis--are covered in the EPI programme, as discussed above. Research on vaccine treatment continues. Indonesia is lacking in resources to provide curative service to more than a small segment of the population in need, but recognition of the early stages of lower respiratory infection could be improved through existing health centres.

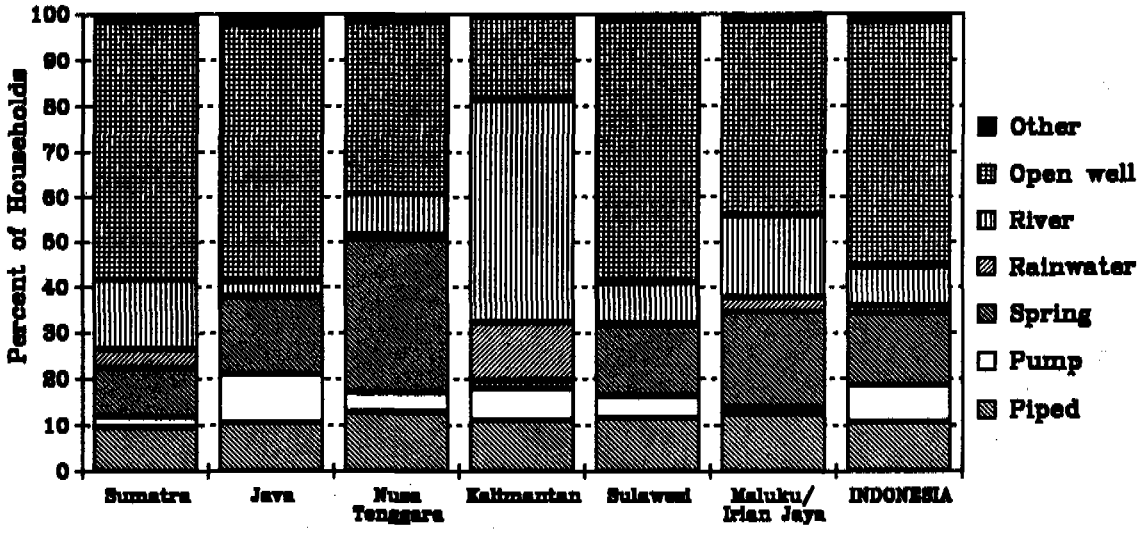
Indirect methods for combatting ARI are being pursued in conjunction with the PHC programmes. Good nutrition, improved housing conditions, and expansion of health education and facilities are all positive means for meeting the challenges of ARI.

Water Supply and Environmental Sanitation

The Indonesian government has given priority to the improvement of water supply and sanitation services during the first three Five-Year Development Plans (Repelita I, II, III, 1969-1984). Nevertheless, a large proportion of Indonesia's population still lacks access to both clean and sufficient drinking water and adequate waste disposal facilities. By far the largest number of households in the country get their drinking water from wells, most of them uncovered and unprotected from contamination. Springs and rivers also provide substantial shares of the total (Figure 3.16).

Reasonable access in an urban area is considered to be provided by a public stand post located not more than 200 metres from a residence. In rural areas, access is deemed reasonable when members of a household do not have to devote a disproportionate part of the day to fetch the family's water requirements. Accessible water supply saves women's time and energy for more productive activities, facilitates breastfeeding and aids the development of her children. As water is a community priority, it can serve as an entry point around which other basic services, including sanitation and hygiene education, can be organized.

Figure 3.16. Sources of Drinking Water, by Region, 1985



Source: CBS, SUPAS 1985 No. 5, Table 66.3.

Though much is still to be done, significant improvements have been accomplished. According to government estimates, the access to water supply in rural areas increased from 18 per cent at the end of Repelita II (1979) to 32 per cent at the end of Repelita III (1983). The target set for Repelita IV (1984-1989) is 55 per cent, and by the end of the decade, 60 per cent of the rural population should have access to clean water.

The Water Supply Programme recognizes the vital role that water plays in CSD. Water can be potentially dangerous as a carrier of pathogens or toxic substances. Water is a critical part of personal hygiene and directly relates to the reduction of diarrhoeal diseases, skin diseases, eye diseases (trachoma) and ectoparasitic diseases. Water is a critical link in the transmission of disease whereby an animal or insect spends some or all of its life in water.

Estimates in the Repelita V documentation indicate that clean water access* in 1988 stands at 65 per cent and 30.5 per cent for urban and rural areas respectively. In general, rural access is likely to be overestimated due to the lack of information on the functional status of pumps and other facilities. In urban areas, where a substantial proportion of households relies on private water sources, access is probably underestimated. Moreover, regional variations are quite significant. According to 1985 government estimates,** access was as low as 10 per cent in some areas and as high as 70 per cent in others.

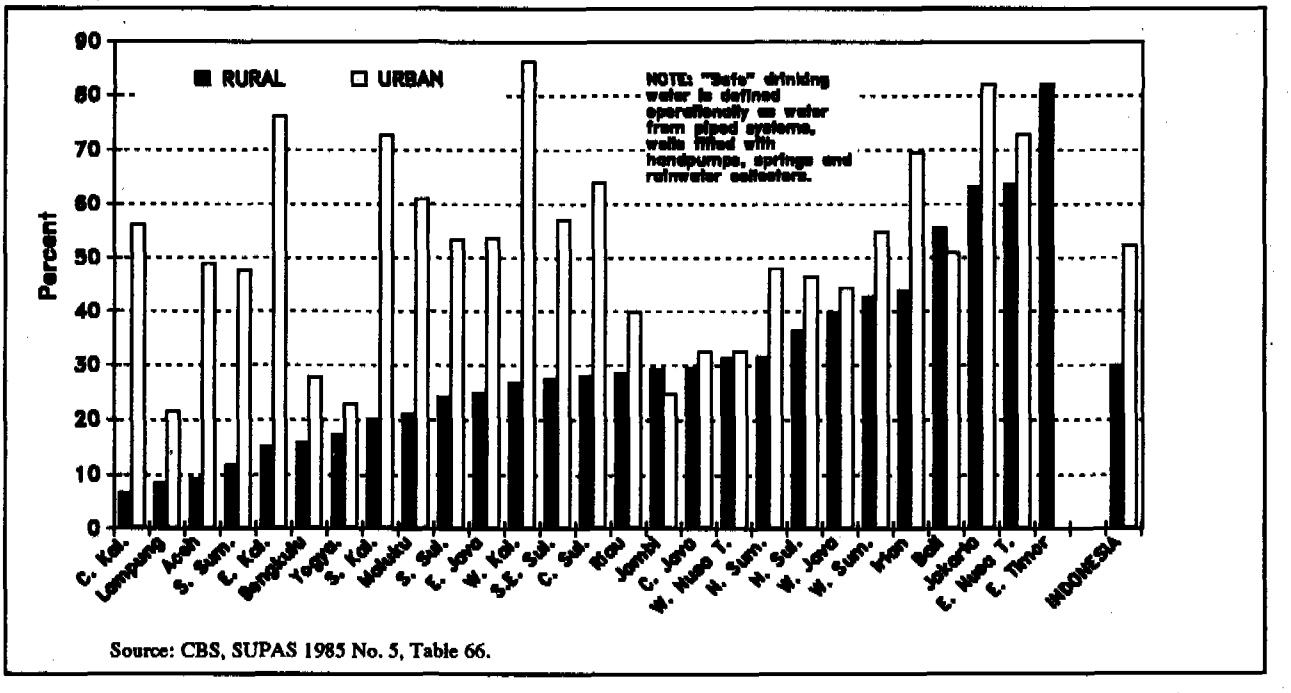
The nation-wide inter-censal population survey (SUPAS) of 1985 found that approximately 30 per cent of rural households and 52.5 per cent of urban households were actually using clean water for drinking purposes (on the assumption that piped systems, wells fitted with handpumps, springs and rain collectors provide clean water). Figure 3.17 shows the inter-provincial variation in the usage of clean drinking water in 1985.

Many of the "clean" water sources are providing contaminated water. A 1987 UNICEF/WHO study on water quality found that water from 72 per cent of the

*By Indonesian standards clean water should have zero fecal or total coliform organisms per 100 ml water sample. For details of bacteriological, physical and chemical criteria, see Department of Health, "Pengawasan Kualitas Air Untuk Penyediaan Air Bersih Pedesaan dan Kota Kecil".

**Department of Health, 1986 data and indicators (Table 10 B), 1988.

Figure 3.17. Percentage of Households with Clean Drinking Water, 1985 (provinces ranked according to rural percentage with clean water)



Source: CBS, SUPAS 1985 No. 5, Table 66.

174 shallow and deep handpump wells tested was not safe for drinking. Contamination is caused mainly by wastewater from the handpumps; more than half of the pumps sampled were located less than 10 meters from the wastewater pits. Latrines situated too near to wells are another source of contamination. According to the 1985 SUPAS, 47 per cent of the urban latrine pits and 21 per cent of those in rural areas were located less than 10 meters from the nearest water source.

Indonesia's populated islands exhibit a great deal of variation in hydrogeological conditions and consequently in their ground water resources. The exploitation of ground water for drinking water and other domestic purposes in rural areas has been concentrated mainly in alluvial areas and coastal plains, which are a small proportion of the total land mass. These areas, where it is relatively easier to drill handpump wells, have become nearly saturated. In the future, exploitation of ground water will have to be extended to areas where hydrogeological and well drilling conditions are relatively more difficult in order to meet the domestic requirements of rural communities. Preliminary estimates* suggest that there is adequate ground water available for drinking in most rural areas of Indonesia.

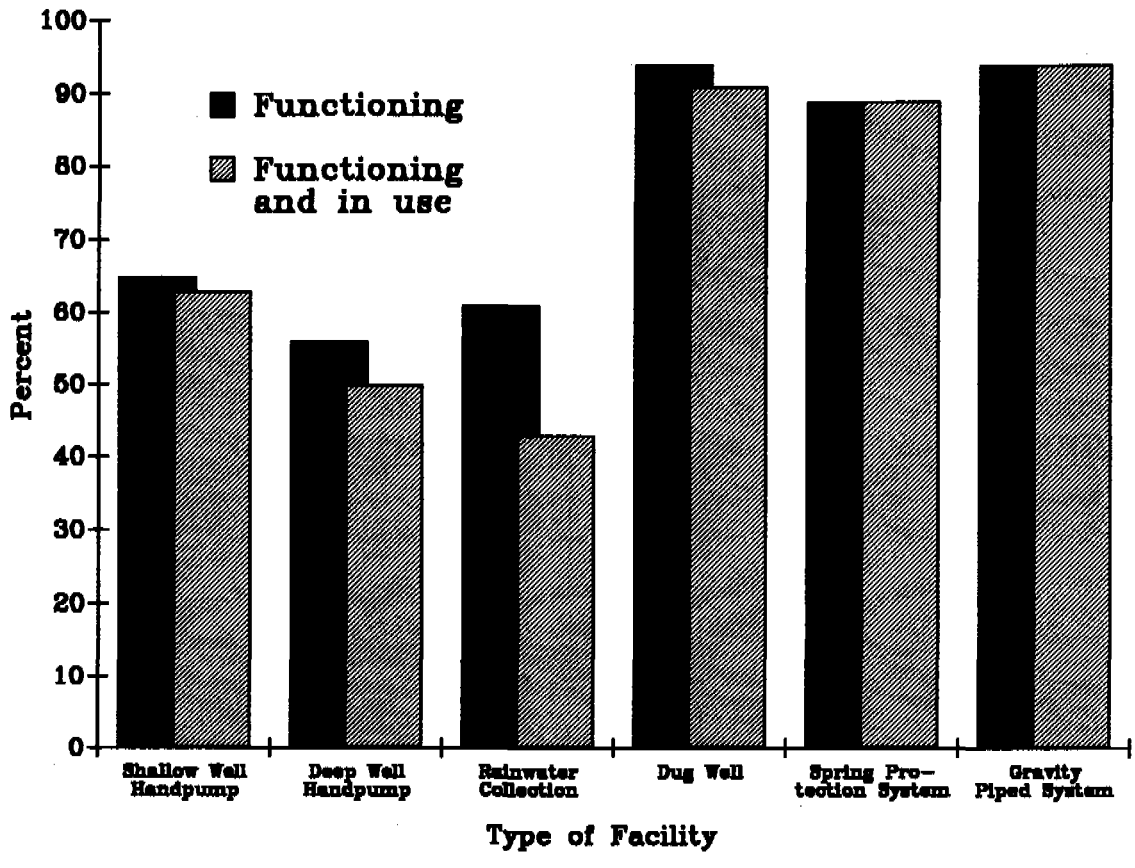
Not all functioning water systems are utilized, as is illustrated in Figure 3.18. Static sources like piped systems, spring protection systems and dug wells have high functioning and usage rates. Shallow and deep handpumps, however, which need continual maintenance and frequent repair, have lower rates. It is of concern that only 53 per cent of all shallow handpumps installed in Repelita IV were found to be still functioning.**

Progress in environmental health, especially in the area of sanitation, lags well behind efforts made in providing adequate water supply. The sanitation programme recognizes that hygienic disposal of human waste is of critical importance in CSD because many of the major infectious agents of disease come from the excreta of infected persons. A large proportion of Indonesia's population dispose of human waste in streams and rivers and on beaches or open ground. The 1985 SUPAS indicates that only 7 per cent of rural households have access to private latrines with septic tanks. The urban situation is relatively better, with 38 per cent of all households having private latrines with septic tanks.

*World Health Statistics Quarterly, Vol. 39, No. 1, 1986, pp. 62-63.

** Akademi Penilik Kesehatan & Yayasan Indonesia Sejahtera, Evaluation of INPRES Water Supply and Sanitation Programme, 1987.

Figure 3.18. Functional Status And Usage Patterns of Water Facilities



Source: Akademi Penilik Kesehatan and Yayasan Indonesia Sejahtera, 1987.

Knowledge, attitude and practice (KAP) studies conducted in 3 provinces (West Nusa Tenggara, South Sulawesi and West Sumatra) revealed that rural communities have little understanding of the link between disease and contaminated water, and of the importance of using latrines and good personal hygiene. There have been very few messages aimed at increasing community awareness and knowledge about the utilization and maintenance of water and sanitation facilities, including the importance of protecting water sources from contamination, and about personal hygiene.

The 1987 evaluation of the INPRES rural water supply and sanitation programme of Repelita II and III found very little community preparation and participation in water and sanitation programme activities, especially in the decision-making process. In most instances the choice of location of facilities was made by the village headman without consulting the community. Nearly half of the users had never participated in any preparatory activities prior to the construction of the facilities, and 90 per cent had never been given any information regarding the water and sanitation programme. During the construction phase, however, as many as 78 per cent were involved in some way, such as providing labour (33 per cent) and preparing food (24 per cent).

The maintenance of shared water facilities will continue to be a problem. In the INPRES evaluation, 61 per cent of the water users did not regard maintenance as their responsibility since the facilities are for everyone and thus belong to no one. The fact that the community was not initially consulted and organised into user groups with specific tasks and responsibilities, could have contributed to their unwillingness to assume responsibility.

CHAPTER IV

EDUCATION AND LITERACY

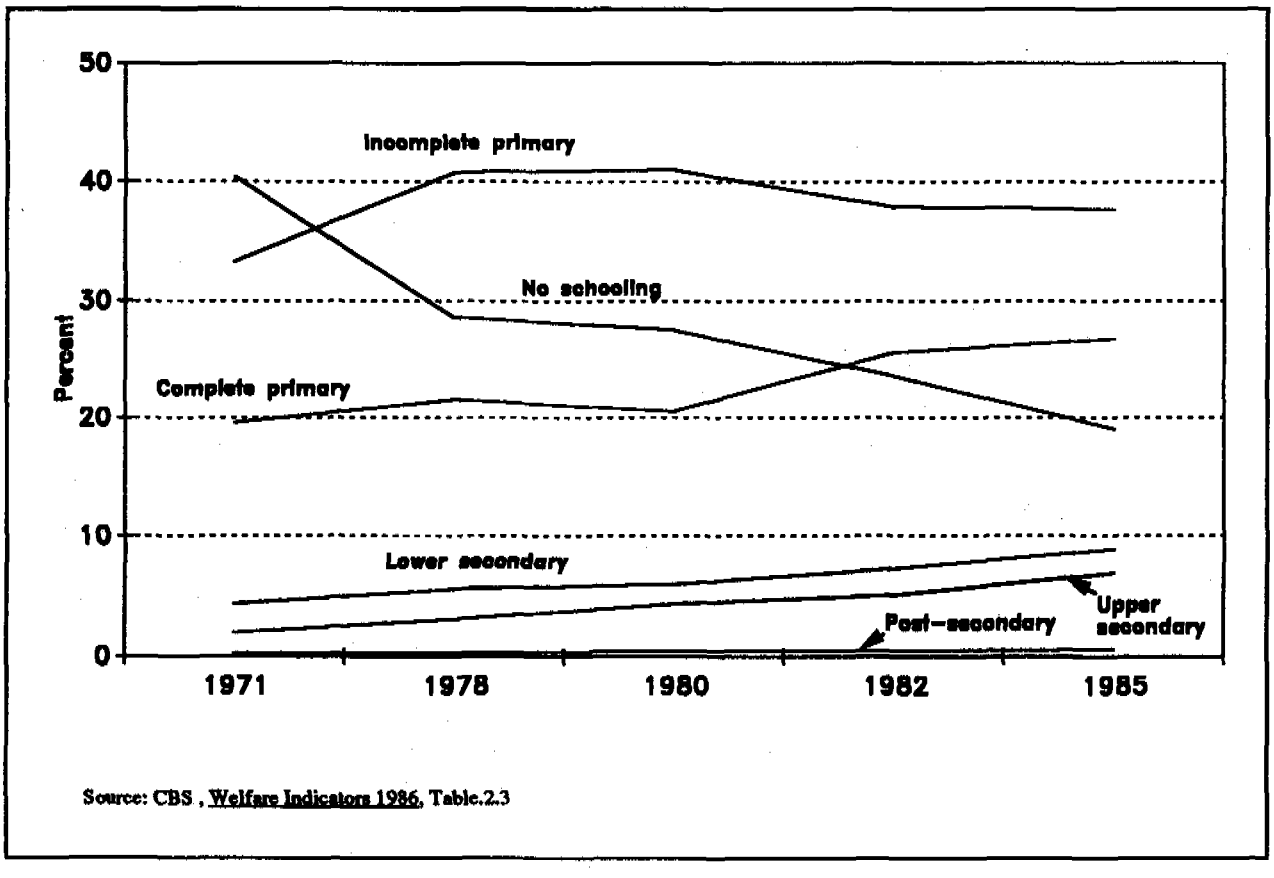
Evidence continues to accumulate that education, particularly at the primary level, has close causal links with general economic development. Education is also a critical component in improving child survival. Educated parents have better access to information, are better equipped to address child care issues and better able to mobilize limited resources to improve health. Furthermore, education improves mothers' skills to make use of health facilities, grasp new ideas and be more self-reliant. In practical terms this means that education provides women with greater decision-making power within the family, giving them the authority to overcome unhealthy traditional practices. Education also reduces fatalism, increasing the feeling of control over their situation.

Thus, the present situation in Indonesia is very much a product of past achievements and experiences in education, and the future depends heavily on what is done today to equip Indonesia's children and youth for the challenges that lie ahead.

A. EDUCATIONAL ATTAINMENT AND LITERACY

Figure 4.1 shows the trend in educational attainment--the highest level of education achieved--among the population aged 10 years and above between 1971 and 1985. The most striking change during this

Figure 4.1. Trends in Educational Attainment, 1971 - 1985
(Percent of Population 10 and Above)



Source: CBS , Welfare Indicators 1986, Table.2.3

period was the sharp decline in the proportion of this population with no schooling. In 1971, 40 per cent of the 81 million adults and school-age children in Indonesia had never attended school. By 1985 this proportion had fallen by more than half, to under 20 per cent, while the number of persons in this age group had increased to more than 120 million.

Figure 4.1 also shows marked growth in the proportion of Indonesians who have completed secondary and post-secondary education. Though relatively small in absolute terms, the rate of growth in these categories has been more dramatic than the expansion of the primary sector. In the early 1970s about one Indonesian in 16 had completed lower secondary school or higher; by 1985 this fraction had increased to 1 in 6. The proportion of the population with lower secondary education doubled during this period, while those completing upper secondary school more than tripled. Academy and university graduates still comprise less than 1 per cent of the population aged 10 and above, though their number grew from 240 thousand in 1971 to 840 thousand in 1985.

The high and relatively constant proportion of persons with less than primary education reflects a primary drop-out rate which in the early 1970s was about 10 per cent and in recent years has ranged between 3 and 4 per cent nationally. This group constitutes by far the largest segment of the population in terms of educational attainment, accounting for more persons than primary and lower secondary graduates combined.

Rising average educational attainment is of course reflected in a declining rate of illiteracy. In 1971, 31.5 million Indonesians above the age of 9, or 39 per cent of this population, were unable to read and write. By the mid-1980s the number had fallen to 23 million--19 per cent of the same age group. As Table 4.1 shows, a little over half of these 23 million illiterates (54 per cent) are 50 or older, and nearly 90 per cent are 25 and above. Almost 70 per cent of them are females.

Table 4.1. Population Age 10 and Above Who Are Unable to Read and Write by Sex and Age Group, 1985

Age Group	Male		Female		Total	
	No. ('000)	%	No. ('000)	%	No. ('000)	%
10-14	243	2.2	234	2.3	477	2.3
15-19	290	3.5	479	5.8	769	4.6
20-24	359	5.6	918	11.6	1,277	8.9
25-29	528	8.1	1,216	16.7	1,744	12.6
30-49	2,358	13.4	5,631	32.7	7,989	22.9
50+	3,460	36.0	7,236	70.0	10,696	53.5
All ages	7,239	12.2	15,718	25.7	22,957	19.1

Source: CBS, SUPAS 1985 No. 5 Table 15.3.

Indonesia's educational achievements are given an international perspective in Table 4.2. In general, Indonesia ranks about midway between the highest levels of literacy and enrolment found among its ASEAN neighbours and in East Asia, and the lower averages in South Asia. In male adult literacy, for example, Thailand, Singapore, Korea and Sri Lanka have substantially higher rates, while in India, Pakistan and Bangladesh, they are much lower. The same pattern holds generally for female literacy, secondary enrolment ratios and the per cent of new entrants who complete primary school. On measures of primary enrolment, Indonesia ranks at or near the top among this group of countries. As might be expected from the above discussion of primary education and literacy, the rate of change in these indicators is markedly higher for Indonesia than for most of the other countries shown. Though Thailand's current male literacy rate is well above Indonesia's, for example, it did not increase as much since 1970; the 1985 figure represents only a 9 per cent improvement, as against Indonesia's 25 per cent. The progress Indonesia has been able to make within a relatively short period, rather than the absolute level of current conditions, is perhaps the most impressive aspect of its educational development.

Table 4.2. Indicators of Educational Achievement: Indonesia and Selected Asian Countries

Countries	Adult literacy rate 1970 M	F	1985 M	F	Primary school enrolment ratio Gross 1960 M	F	1983-6 M	F	Net 1983-6 M	F	% of Grade I entrants completing primary school 1980-1986	Secdry school enrolment ratio (gross) 1983-1986 M	F
ASEAN													
1. Indonesia	66	42	83*	65*	96	58	121	116	100	96	80	45	34
2. Thailand	86	72	94	88	88	79	93	93	n.a.	n.a.	64	35	35
3. Philippines	83	80	86	85	98	93	109	106	94	95	84	63	66
4. Malaysia	71	48	81	66	108	83	100	99	n.a.	n.a.	97	52	53
5. Singapore	82	65	93	79	121	101	118	113	100	100	90	70	73
EAST ASIA													
1. Rep. of Korea	94	81	96	88	99	89	94	94	92	92	94	98	93
2. China	n.a.	n.a.	82	56	n.a.	n.a.	132	114	n.a.	n.a.	66	45	32
SOUTH ASIA													
1. India	47	20	57	29	80	40	101	76	n.a.	n.a.	38	45	24
2. Pakistan	30	11	40	19	46	13	66	33	n.a.	n.a.	34	21	8
3. Sri Lanka	85	68	91	83	100	90	105	102	n.a.	n.a.	91	60	67
4. Bangladesh	36	12	43	22	66	26	70	38	63	45	20	26	10

*The present national estimates are 86 per cent (male) and 70 per cent (female).
Source: UNICEF, State of the World's Children, 1988.

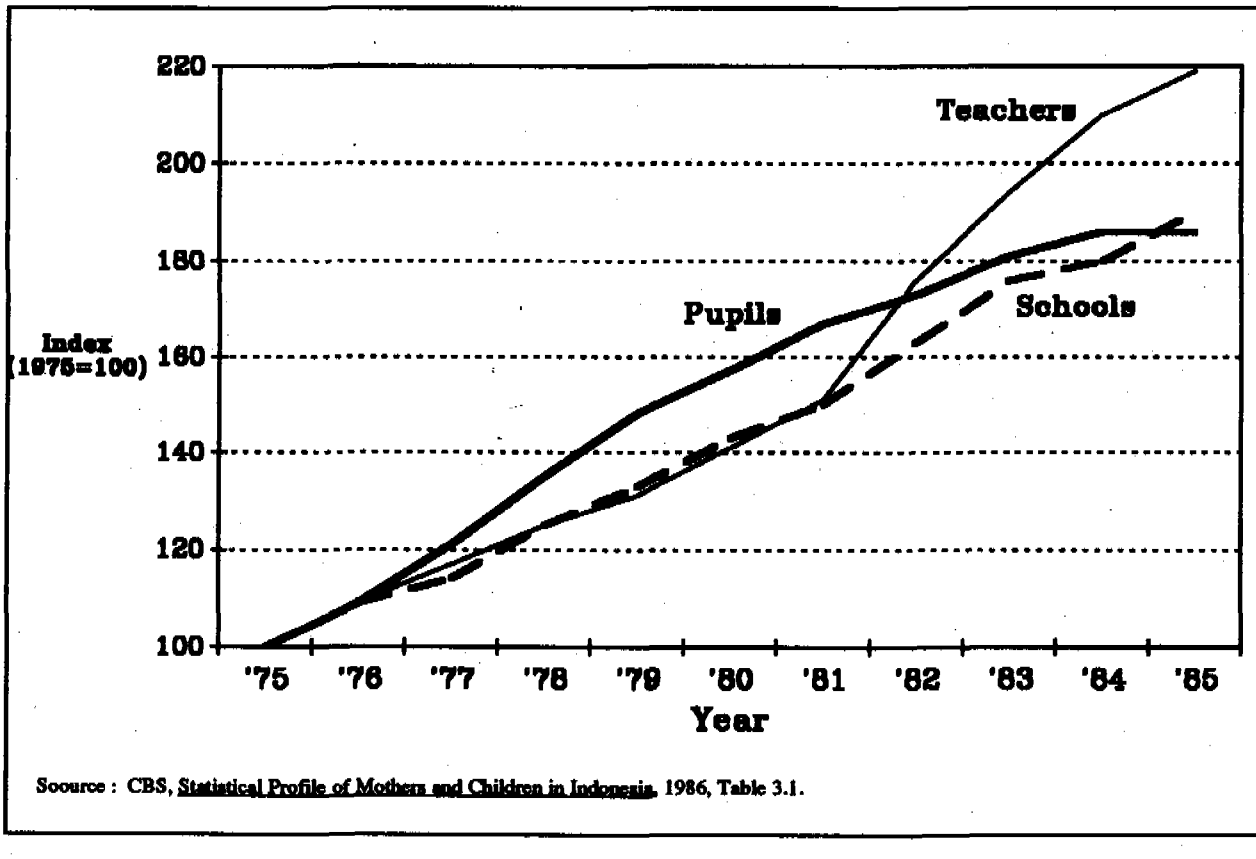
B. FORMAL EDUCATION SYSTEMS

The steady advances in basic education and literacy, as described above, are the result of massive government efforts for over a decade. Figure 4.2 shows the growth in primary schools, teachers and pupils from 1975 to 1985. The building and staffing of primary schools on a huge scale became possible as oil revenues multiplied following the OPEC-led price increases in the early 1970s. In 1974 the INPRES (Presidential Instruction) programme for primary schools and facilities was initiated, through which tens of thousands of new school buildings have been constructed during the second, third and fourth Five-Year Plans. At the same time, expenditures for the hiring and training of teachers, for textbooks and other supplies and equipment were dramatically increased.

In all, about 66,000 new schools were added to the system from 1975 to 1985, and over half a million new primary teachers. Enrolment over the same period grew from 14.3 million to 26.6 million.

The basic objective behind this effort has been to provide universal access to schooling at primary level, in the process eliminating inequities between urban and rural areas, and among regions and socio-economic classes. Primary school fees were abolished in 1977/1978, for example, to further improve access and equity, and a policy of compulsory primary education was introduced in 1984.

Figure 4.2. Expansion in Schools, Teachers and Pupils at the Primary Level, 1975 - 1985



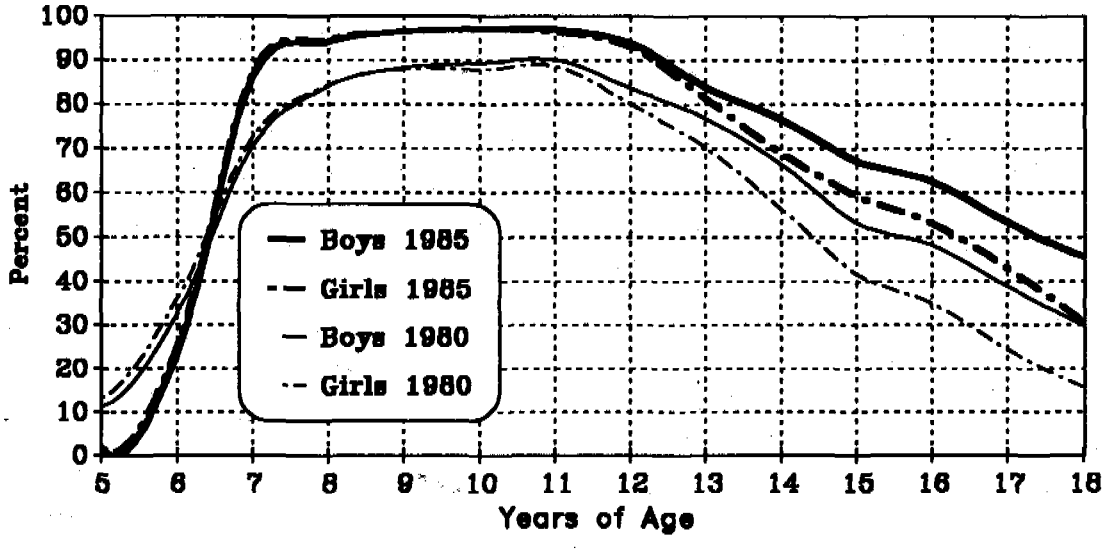
Soource : CBS, Statistical Profile of Mothers and Children in Indonesia, 1986, Table 3.1.

The goal of universal access to basic education for the 7-12 age group has been largely achieved. The net enrolment ratio for this group reached more than 95 per cent in 1986, well over double the ratio in 1968.*

At this level of primary school enrolment between 4.0 and 4.5 million new pupils enter primary grade I each year. About 2 million and 700 thousand new entrants are registered annually in lower and upper secondary schools, respectively. Enrolment at lower secondary level represents about 45 per cent of the 13-15 age cohort, while upper secondary enrolment is about 19 per cent of the group aged 16-18.

School attendance among post-primary age children, though much lower than at primary level, has increased even more rapidly in recent years (Figure 4.3). On average, there was a gain of about 10 percentage points between 1980 and 1985 in the primary school age group (7-12); at lower secondary level (ages 13-15) school attendance was nearly 13 points higher in 1985 than in 1980, and for the upper secondary age cohort (16-18) 16 points higher. Clearly primary education is approaching saturation, resulting in rapidly growing pressure at the secondary level.

Figure 4.3. Percent of Children Aged 5 - 18 Who are Attending School 1980 and 1985



Source: CBS, 1980 Census, Table 16.3. & SUPAS 1985 No. 5, Table 21.3.

* These enrolment figures include children in regular public and private schools as well as those in the *Madrasah Ibtidaiyah*. These are Islamic primary schools offering an educational programme similar to that of the public schools, but with greater emphasis on religious subjects. These schools are basically community-funded and community-operated, though they receive some government support and come under the general supervision of the Department of Religious Affairs. Approximately 13 per cent of the primary schools and about 10 per cent of the primary enrolment is accounted for by these religious schools.

The dynamics of population growth reinforce this conclusion. Projections based on the 1985 Intercensal Population Survey for the 5-9, 10-14 and 15-19 age groups indicate very different growth patterns to 1995, reflecting declining fertility and rising life expectancy since the 1970s. The 5-9 group, from which the bulk of primary enrolment takes place, is projected to be only 4 per cent larger in 1995 than in 1985. The two older age categories, which include most of the children who will be ready to enrol in lower and upper secondary school, are expected to grow much faster. For the 10-14 group, the projections indicate an increase of nearly 14 per cent by 1995, and a 25 per cent increase for the 15-19 group.

Unlike primary education, in which more than 90 per cent of total enrolment is in state schools, the private sector plays a very important role in the provision of secondary and post-secondary schooling. Of a total of more than 15,000 junior secondary schools, almost 10,000 are private; and private sector enrolment represents about 44 per cent of the total. At upper secondary level, private schools account for three-quarters of the schools and close to 60 per cent of the enrolment.

In recent years about 65 per cent of the primary school graduates have gone on to junior secondary school. The continuation rate from lower to upper secondary levels stands at around 55 per cent.

C. ISSUES OF EQUITY AND QUALITY *

As noted above, a major objective of education policy has been to reduce or remove inequities among regions of the country, between urban and rural residents and between the sexes. In terms of access, this objective has been largely met at the primary level. The more than 165,000 primary schools in Indonesia--an average of 2.5 schools for each of the 67,000 villages--appear to be fairly evenly distributed, and classroom size, student-teacher ratios and female enrolment are relatively uniform among provinces.

In terms of educational quality, however, substantial variation is apparent. Drop-out rates, for example, which at the national level averaged about 3.5 per cent for the years 1983-85, ranged from under 2 per cent to 7 per cent and more among the 27 provinces. Repetition rates also vary widely among provinces, from around 6 per cent to as much as 15 per cent. Information is not available on drop-out and repetition rates disaggregated by urban and rural within provinces, but there is a general tendency for the most rural and remote provinces to have higher rates of drop-out and repetition than other areas. Though no specific evidence is available on the causes of primary drop-out in recent years, it can be assumed that a major factor in many areas is the inability of families to afford the direct and opportunity costs associated with full-time school attendance by their children.

National tests have also shown large regional differences in academic performance, and census and survey data indicate similar large disparities among provinces in educational attainment and continuation rates.

The issue of primary school drop-outs is important not only from the point of view of quality and efficiency in the educational system. The child who drops out too early will be unable to maintain his literacy and numeracy skills outside the school environment, and will become an addition to the already large pool of illiterates.

Indonesian data indicate that about 60 per cent of all primary drop-outs occur at grades IV, V and VI. Assuming that completion of at least grade IV is sufficient to instill permanent literacy skills, it appears that the majority of Indonesia's primary drop-outs are leaving school with at least minimum ability to read and write.

But with current primary enrolment of nearly 27 million, and a national drop-out rate averaging between 3 per cent and 4 per cent, almost a million children are leaving school annually before completing grade VI. Perhaps 350 thousand of these --the 40 per cent who do not complete primary IV-- have probably not reached a sustainable level of functional literacy. To these must be added 200 thousand representing the 5 per cent or so who never enter primary school. Thus, perhaps 500 thousand to 600 thousand new illiterates are being added to the Indonesian population each year.

* Material in this section come mainly from the Education and Human Resources Sector Review, Dept. of Education and Culture and USAID, 1986.

D. EDUCATIONAL FINANCING

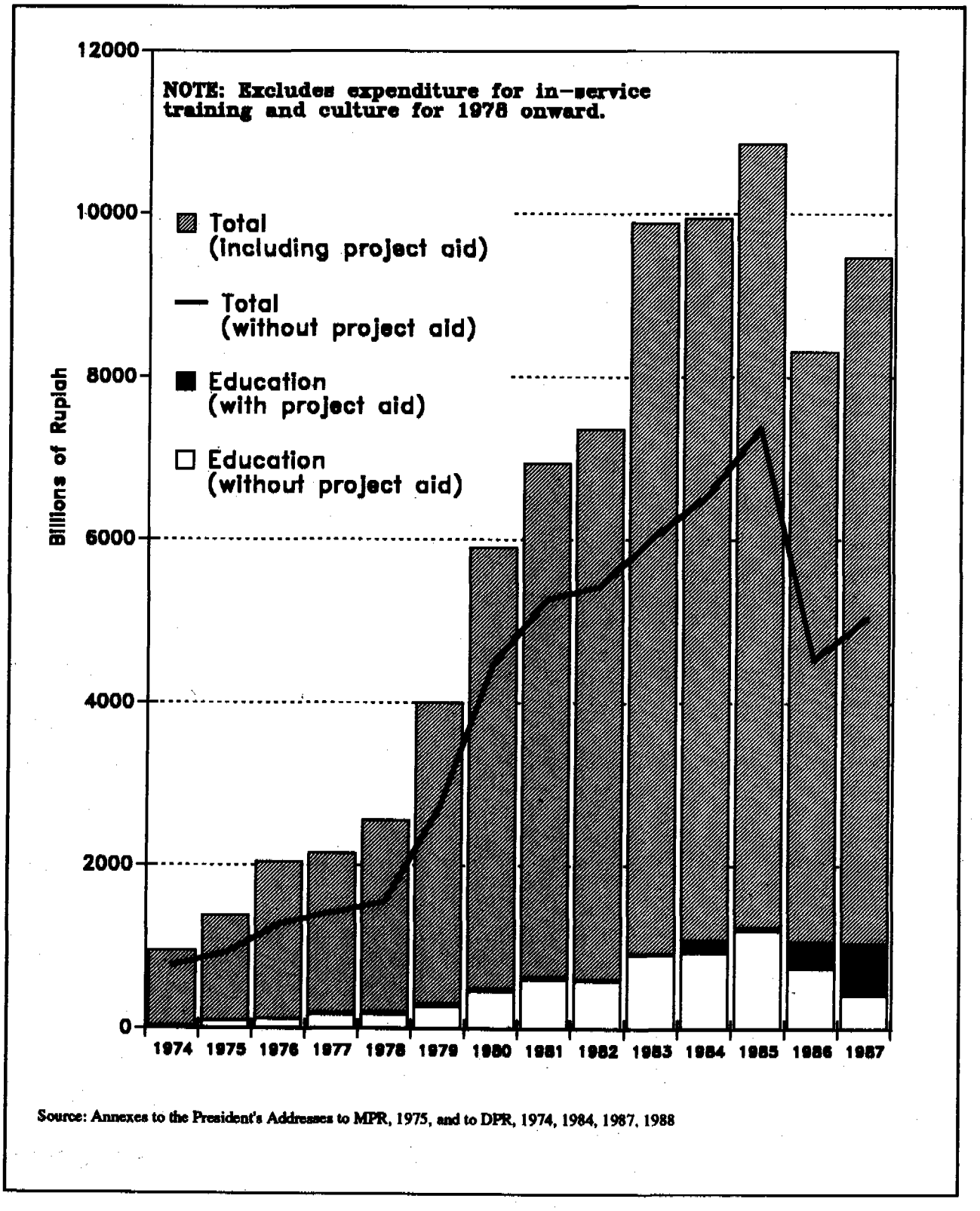
The complicated budgetary system in Indonesia makes it very difficult to determine accurately the magnitude and distribution of public funding for education. The Department of Education and Culture, for example, is only one of the major actors in the education system, particularly at primary level. The Departments of Home Affairs and Religious Affairs at the central level are also important in funding and administration; and provincial resources, although relatively small, contribute to the overall educational picture. Moreover, as noted elsewhere in this chapter, a large proportion of schools at all post-primary levels are funded and managed by the private sector.

Nevertheless, it is possible to make some general statements about recent trends in public funding for education. This is a particularly timely issue in view of current budget constraints and uncertain prospects for Repelita V.

As discussion in previous sections of this chapter has indicated, the very impressive progress that Indonesia has made in providing access to basic education has been achieved at considerable cost. About 66,000 new primary schools were constructed during the 1975-85 period to accommodate a nearly 90 per cent growth in enrolment consisting of 12.3 million new students. As Figure 4.4 shows, the financial commitment of government has been generally continuous and sustained from 1974 to the present.

Excluding project aid, education accounted for about 10 per cent of the total development budget during most of Repelita IV. Beginning in 1983, education's share rose sharply, to between 14 per cent and 16 per cent. In absolute terms, development expenditure on education rose by more than 300 per cent from 1979 to 1985. In the single year from 1985 to 1986, however, educational spending suffered a 38 per cent cut, and from 1986 to 1987 a further 44 per cent reduction. In rupiah terms, development expenditure in 1987 had fallen below what it had been in 1980. Fortunately, it has been possible to make up most of the loss through project aid; taking this into account, the level of development expenditure declined by only 3.5 per cent from what it was in 1984, the first year of Repelita IV.

Figure 4.4. Development Expenditure on Education vs. Total Development Expenditure 1974 -1987



Source: Annexes to the President's Addresses to MPR, 1975, and to DPR, 1974, 1984, 1987, 1988

CHAPTER V

THE SITUATION OF WOMEN

A. INTRODUCTION

Indonesia's history and cultural traditions have generally been favourable to women. For centuries Indonesian women have participated freely and actively in the affairs of everyday life--in agriculture, in commerce, in social affairs--facing little of the rigid, formalized discrimination which women have faced in many other countries. In modern Indonesia, women are represented in the President's Cabinet, in the legislature, in the armed forces and police. More than a third of all adult women participate in the labour force, and this proportion is rising. They are easily accepted and generally well-represented in professional and technical fields such as medicine and law. Young girls now enrol in primary school in the same proportion as boys.

Indonesian women are not a homogenous group, but, as with the larger society, may be sub-divided by economic status, ethnicity, social position, educational attainment and other characteristics, each with different value systems, needs and aspirations. Thus a variety of strategies and programmes are needed to meet the specific needs of these different groups.

One of the major social factors affecting women is the pluralism in kinship systems--bilateral or parental, patrilineal and matrilineal, or variations thereof. Of these three types of kinship system, the parental is most widespread, characterizing the Javanese, Sundanese and Madurese among others. The Bataks of North Sumatera have a patrilineal kinship system, with descent and inheritance following the male line; in the matrilineal system of the Minangkabau of West Sumatra, immovable property such as land and buildings is inherited through the female line.

B. SOCIAL, POLITICAL AND LEGAL STATUS

This is reflected today in a legal and political system which generally supports and extends the status and respect accorded to women by tradition. The Indonesian Constitution of 1945 makes no distinction between men and women, guaranteeing equal rights and obligations in the fields of education, law, health, political participation and employment. Indonesia has ratified the 1952 UN Convention on the Political Rights of Women, under which women are ensured equal rights to employment, to vote and stand for election, and to hold public office, as well as the UN Convention on the Elimination of All Forms of Discrimination Against Women.

Subsequent regulations and legislative acts have reinforced the guarantees set out in the Constitution and international conventions of equality between men and women regarding workers' rights, vocational education, safe working conditions and job security. In the government sector women are entitled to equal pay for work of equal value and non-discrimination in seeking and holding a job. Women are entitled to full pay during pregnancy leave or leave of absence following a miscarriage, and working mothers have the right to time off to nurse their infants.

Equitable opportunities for Indonesian women to participate in national development have been further stressed in the Basic Guidelines of State Policy (GBHN) of 1978, 1983 and 1988. The 1988 GBHN, for example, declares that "Women, as citizens and human resources for development, have the same rights, obligations and opportunities as men in all (aspects of) civic life and in all development activities." The special role of women in family life, particularly in the care and guidance of children, is underlined, but the GBHN also stresses the necessity of developing a socio-cultural climate which will encourage wider participation of women in all fields, and of strengthening women's capabilities by enhancing their knowledge and skills.

Specific mention in the GBHN is an indication of the importance attached to the integration of women's concerns into national plans and policies for socio-economic development, and is an expression of political will to further improve the condition of Indonesian women.

As the above discussion shows, the legal basis for equal rights and opportunities for women is substantial. Within this formal legal framework, however, and despite its generally progressive character, there are still many constraints which hinder full and complete integration of women into all aspects of Indonesian life. Some of these problems are generic, in that they are faced by men and women alike (those related to poverty, for example), while others are specific to women, such as early marriage and unequal treatment in some economic sectors, that stem from socio-cultural factors which cut across economic strata. Many of these latter problems are deeply rooted in attitudes and values that cannot easily be reconciled with newer ideas of what is appropriate or necessary in a rapidly developing society.

Patterns of Marriage and Divorce

Marriage for both males and females is nearly universal in Indonesia. More than 90 per cent of Indonesian women are married, or have been married, before the age of 30. Three-quarters of the male population has been married by the same age. By age 50, 98 per cent of the total population, both male and female, has been married at least once.

Marriage Law No. 1 of 1974 safeguards the rights of women with respect to property and possessions acquired before and after marriage, sets the minimum age at marriage at 16 for girls and 19 for boys, and gives women the right to seek a divorce. Since 1983 the Government has encouraged the delay of marriage until age 20 for females and 25 for males. Though Muslim men still may have up to four wives, the practice is officially discouraged, and the first wife must give her consent before her husband can take another wife.

Despite the Marriage Law, early marriage among women is still common in several areas. The average age at first marriage has been rising, but the proportion of women marrying before age 16 is still unacceptably high. Data from the 1980 Census and the 1985 Inter-censal Population Survey show a decline in the proportion of women marrying at age 15 or below--from 25 per cent in urban areas and 33 per cent in rural areas in 1980, to 19 and 26 per cent, respectively, in 1985. In the latter year nearly 4 million women below age 35 were married before they were 16 years old--more than 1 in 5.

The average age at which women marry has important implications for their own well-being and the welfare of their children and families. Those who marry young are most susceptible to the risks of pregnancy at an age when the risks of complication in childbirth are highest. Maternal mortality among women under age 20 is more than 160 per cent as high as for those 20-29. These women are also the most likely to have many children, and Indonesian studies have found that infant mortality goes up by more than 50 per cent and maternal mortality by 300 per cent among women giving birth for the fourth time, as compared with low parity mothers. Age at first marriage is also closely linked with female education: the lack of at least basic education can have adverse consequences for employment and other opportunities throughout life.

C. PATTERN OF WOMEN'S EDUCATIONAL ACHIEVEMENT

Although school enrolment and literacy among women have been increasing steadily for decades, a significant gap between males and females persists. Of about 23 million Indonesians classified as illiterate in 1985, 15.7 million, or just over two-thirds, were women. With primary enrolment rates now approaching 100 per cent for both boys and girls, the number of new illiterates entering the adult population is becoming relatively small. Even so, however, in 1985 nearly 314,000 children in the 10-14 age group had never attended school. Of the economically active female population, one-third in 1985 had never attended school, while among economically active males less than 15 per cent had no schooling. The proportion with less than complete primary education was about the same (34 per cent) for both men and women.

As mentioned in the previous chapter, boys and girls enter primary school in equal proportions, mostly by the age of seven. Thereafter, however, a gap develops whereby the percentage of boys attending school exceeds the percentage of girls by a margin of 6-12 points (Figure 5.1). This pattern continues throughout the school-going years. Comparing the situation in 1985 with 1980, attendance has increased substantially during the period but the shape of the curve and the female-male differential have hardly changed at all. A very similar pattern is revealed (Figure 5.2) when educational attainment is plotted by sex for the entire population above the

Figure 5.1. School Attendance By Age Group And Sex, 1985

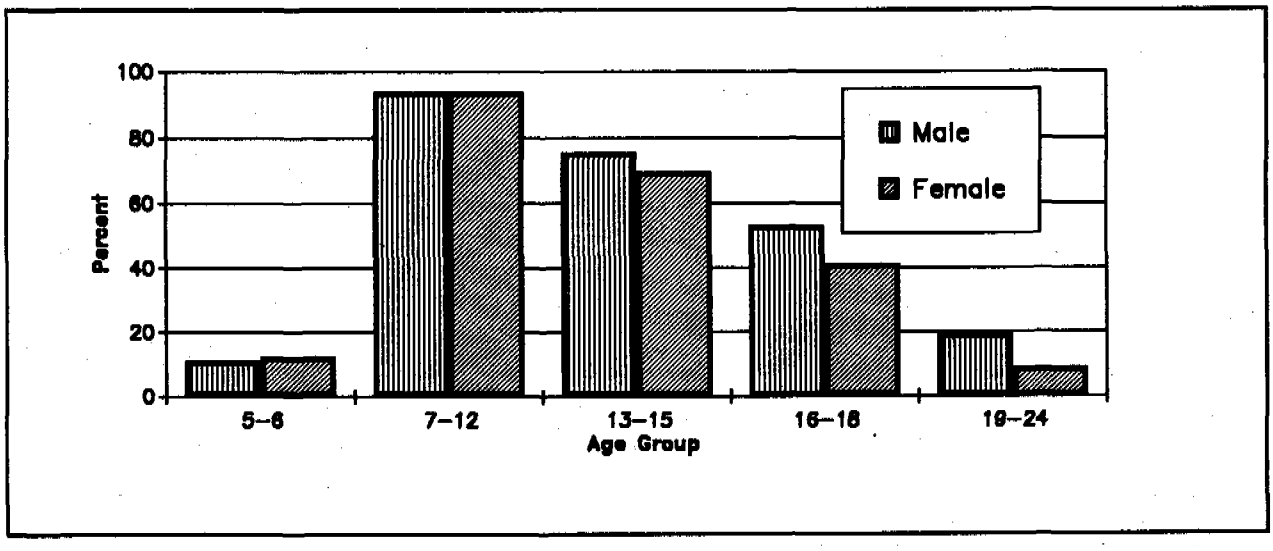
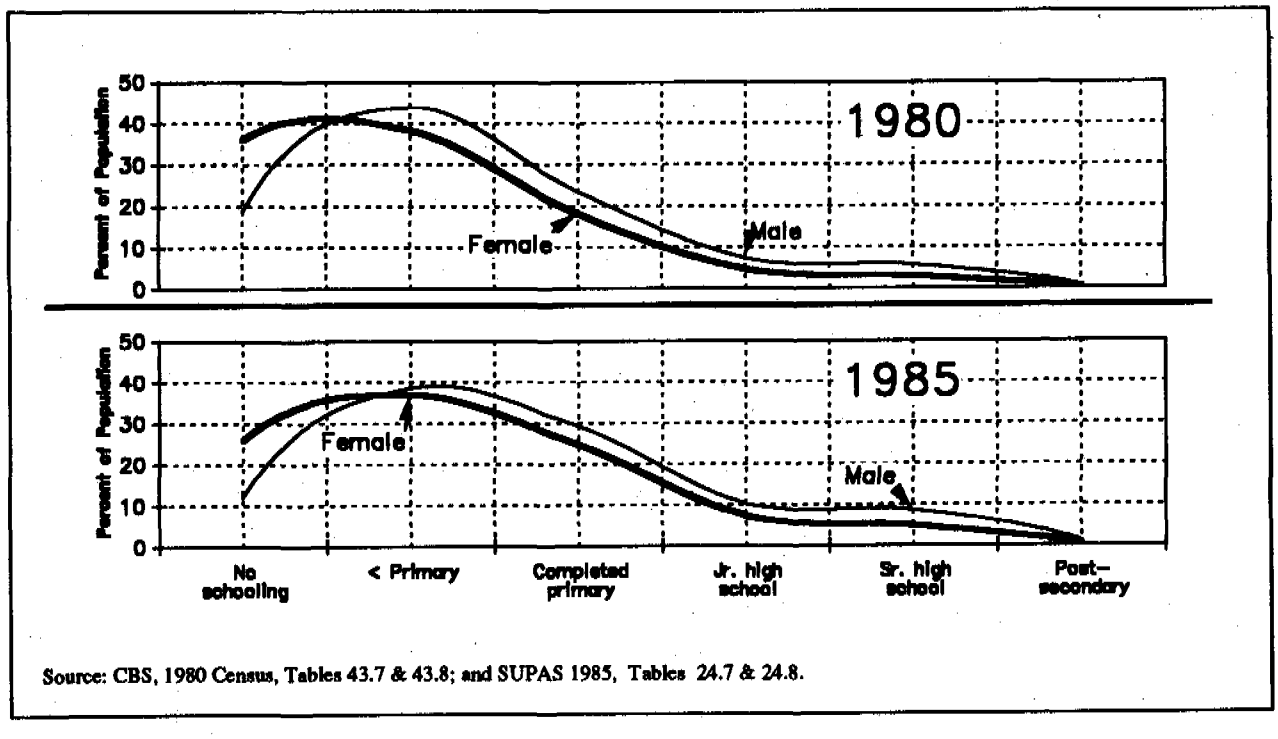


Figure 5.2. Educational Attainment Of Persons Age 10 And Above, By Sex



Source: CBS, 1980 Census, Tables 43.7 & 43.8; and SUPAS 1985, Tables 24.7 & 24.8.

age of nine. Between 1980 and 1985 the overall curve flattens somewhat, indicating smaller proportions with no schooling or less than a complete primary education, and greater proportions who have completed primary and secondary levels. In the context of equal educational opportunity between the sexes, however, the persistent gap between males and females at every level is striking.

A factor closely related to literacy and education is the ability to use and understand the national language, Bahasa Indonesia. With hundreds of ethnic communities in Indonesia, and the linguistic diversity that this implies, the overriding importance of a common language is apparent. For those whose mother tongue is not Bahasa Indonesia (and the 1980 census found that only 12 per cent of the population used this language at home), the educational system is the best and surest way of learning it.

Enormous progress has been made. In 1971, only 46 per cent of males and 36 per cent of females reported they were able to speak in the national language. By 1980, the latest year for which data are available, the proportions were 66 per cent and 56 per cent for males and females respectively.

D. PARTICIPATION IN THE BUREAUCRACY AND LEGISLATIVE COUNCILS

The Fourth Development Cabinet, appointed in 1987, includes two women--the Minister of State for the Role of Women and the Minister of Social Affairs--out of 38 members. Table 5.1 below shows past and current female representation in the legislative branch at the national level.

An encouraging trend in the government sector has been taking place over at least the past decade and a half. In 1974 about 18 per cent of all Indonesian civil servants were women; close to 40 per cent of them were in the lowest salary level, and only 3 per cent were in the two top levels. By 1984, the female share of civil service posts had grown to 27 per cent, and their distribution among the four main levels had changed substantially (see Table 5.2). Whereas the total government work force increased by 70 per cent in the decade from 1974 to 1984, the female component increased by 157 per cent. About 12 per cent of the female civil servants in 1984 occupied posts in the lowest salary group, down from 38

Table 5.1. Female Participation in the Legislative Branch of Government

	1971	1977	1982	1987
Parliament (DPR)				
Total membership	460	460	460	500
Female members	31 (6.7%)	37 (8.0%)	42 (9.1%)	59 (11.8%)
People's Consultative Assembly (MPR)				
Total membership	920	920	920	1000
Female members	51 (5.5%)	58 (6.3%)	69 (7.5%)	102 (10.2%)

Table 5.2. Percentage Distribution of Civil Servants by Sex and Salary Level (*Golongan*), 1974-1984

Level	All Civil Servants				Female Civil Servants	
	1974		1984		1974	1984
	Female	Male	Female	Male		
I (lowest)	12.6	87.2	12.0	88.0	38.0	11.8
II	25.7	74.3	35.0	65.0	59.0	82.0
III	12.4	87.6	19.5	80.5	2.9	6.0
IV	5.8	94.2	8.9	91.1	0.1	0.2
Total	18.1	81.9	27.3	72.7	100.0	100.0

Source: UPW, UNICEF and CBS, Indikator Sosial Wanita Indonesia, p. 106.

per cent in 1974, while the proportion in the two highest levels more than doubled, from 3 per cent to over 6 per cent.

In addition to the system of salary levels (*golongan*), a small proportion of civil service posts (about 7 per cent in 1985) are also classified according to 10 echelon levels: I-A (the highest) to V-B (the lowest). Echelons III to I are designated "managerial" or "leadership" posts (*jabatan pimpinan*).

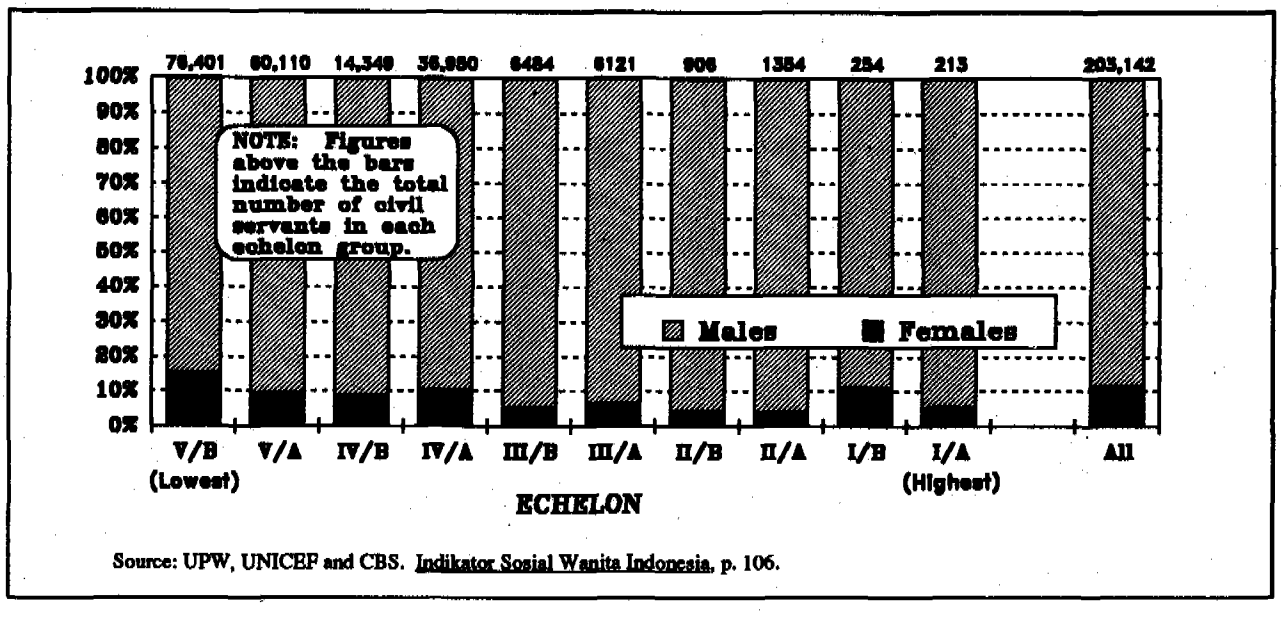
Unfortunately, statistics on this civil service category are available only for 1984. As Figure 5.3 shows, only 11 per cent of the echelon positions were held by women in 1984; and only 846 women (less than 6 per cent) had reached Echelon III or higher--the leadership positions--out of a total of more than 15,000 posts in these categories.

Clearly women are being recruited into the civil service in much larger numbers than previously, but progress in qualitative terms--the placement of women in key managerial and decision-making roles--is occurring at much slower pace.

E. FEMALE LABOUR FORCE

Female participation in the Indonesian labour force has been increasing rapidly. In 1980, the participation rate for women was 32.4 per cent; by 1985 it had reached 37.6 per cent, an increase of more than 5 per cent. During the same period, male labour force participation also rose, from just over 67 per cent to 68.9 per cent, but the percentage change was only about one-third as large as for females. Table 5.3 below shows the projected female share of the labour force to the end of the century.

Figure 5.3. Female Civil Servants as a Proportion of Echelons V/B to I/A 1984



Source: UPW, UNICEF and CBS. Indikator Sosial Wanita Indonesia, p. 106.

Table 5.3. Projected Labour Force Composition According to Sex, 1988-1998

Year	Female %	Male %	Total %
1988	37.4	62.6	100
1993	38.8	61.2	100
1998	40.2	59.8	100

Source: CBS, Proyeksi Angkatan Kerja 1988-2000.

Women's economic activities, especially those women belonging to the poorer segments of the population, are often closely linked with their responsibilities in the family, with much or all of their income going to meet household needs. However, over 40 per cent of the females in the labour force are employed as unpaid family workers, as compared with about 13 per cent for men. More than half of all working women work part-time--that is, less than 35 hours per week--whereas among men this proportion is about a third.

One of the reasons that many women are employed in low-status, low-paying and part-time jobs is that they lack the skills and educational qualifications for better jobs. Even when educational attainment is the same, however, women are paid far less, on average, than males (Table 5.4). The sex differential is greatest among workers with the least formal education, but even among academy or university graduates males earn 40 per cent more than their female co-workers. The same pattern holds when male and female workers are matched for hours of work, type of occupation and field of work.

ment, with the largest component of this increase in construction. Females were more heavily concentrated in manufacturing than males in 1971, and to an even greater extent in 1980 and 1985. In the latter years, about 1 in 8 female workers were employed in the manufacturing sector; a large percentage of these women work in tobacco, textile, and food and drink processing establishments (Table 5.5).

Maternal employment has been shown to have a relationship with infant feeding practices. A study of low-income families in Semarang (Central Java)*, found that one-fourth of the infants of working mothers were breastfed, as opposed to three-fourths of the non-working mothers' infants. This negative relationship was significant even after adjusting for the effects of per capita income and mother's education. In other words, regardless of household income level and education, working mothers breastfed less than non-working ones did. This finding suggests that maternal work status is likely to be an important determinant of a mother's decision to breastfeed.

Table 5.4. Average Net Monthly Wages of Male and Female Workers by Educational Attainment, 1986

Education	Female	Male	Ratio male:female
No school/less than primary school	Rp 22 740	Rp 44 659	2.0
Primary school	29 638	58 361	2.0
Lower secondary school	50 743	82 652	1.6
Higher secondary school	71 648	103 850	1.4
Academy/university	117 362	167 064	1.4

Source: CBS, Indikator Sosial Wanita Indonesia (forthcoming, 1988).

The number of female workers in agriculture has declined since 1971, while employment in most other sectors has risen sharply. Agriculture still accounts for more than half of female employment, but about 5.5 million women have jobs in the service sector, and well over 2 million in industrial occupations. Within the service sector, the increasing number of women in trade is the most obvious. In the industries, male employment has increased somewhat faster than women's employ-

This study also showed that mothers' employment in factories had a negative effect on their infants' nutritional status. However, the effect was significant only if the mother worked more than 40 hours per week and was paid less than the basic minimum wage of Rp16,000.

* Soekirman, The Effect of Maternal Employment on Nutritional Status of Infants from Low-Income Households in Central Java, Ph. D. thesis, Cornell University, 1983.

Table 5.5. Changes in Employment by Sector and Sex, 1971-1980

Sector	Male			Female		
	1971 %	1980 %	1985 %	1971 %	1980 %	1985 %
Agriculture	65.5	57.3	55.3	63.3	54.2	53.7
Industry	8.5	13.4	14.1	9.0	13.1	12.2
Mining	0.3	1.0	0.9	0.0	0.4	0.3
Manufacturing	5.7	7.5	7.9	8.8	12.5	11.7
Electricity, water gas utilities	0.1	0.2	0.2	0.0	0.0	0.0
Construction	2.4	4.7	5.1	0.1	1.7	0.2
Services	26.0	29.3	30.6	27.7	32.7	34.1
Trade	8.8	10.1	11.5	14.4	19.1	21.2
Transport	3.4	4.2	4.8	0.1	0.1	0.1
Finance	0.3	0.7	0.5	0.1	0.3	0.2
Public services	10.9	14.3	13.8	8.4	13.2	12.5
Other	2.6	0.0	0.0	4.7	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: CBS, 1971 & 1980 Census, SUPAS 1985 No. 5.

This finding suggests that infant health is related not simply to mothers having less time for infant care, but also to mothers not having adequate additional income to spend on supplementary feeding and child care.

In many Indonesian households young girls play a prominent role in child care. A study conducted in a West Java village,* for example, found that girls from 10 to 15 years of age spend nearly as many hours per month caring for younger children as the older women in the same households. The same general pattern was found at all socio-economic levels, but tended to be more pronounced in poorer households.

F. HOUSEHOLDS HEADED BY WOMEN **

In 1980 there were more than 4.3 million female-headed households, comprising 14.2 per cent of all households in Indonesia and accounting for more than 8 per cent of all women over age 10. About 3.5 million (80 per cent) of these households were located in rural areas, and less than 900 thousand in cities and towns. The number increased by 635 thousand between 1971 and 1985, but practically all of this growth took place in urban areas. (Indeed, there was a substantial net decline in rural households headed by women between 1980 and 1985). In proportional terms, however, female-headed households declined from more than 16 per cent of the total in 1971 to just over 13 per cent in 1985. This is due to the very rapid rate of total household formation throughout the period.

The concept of "household head" is itself somewhat ambiguous. By social convention, a woman is seldom recognized as the head of an Indonesian household if any household member is an adult male. Circumstances must be fairly unusual, therefore, for a woman to be classified in surveys and census enumerations as the head of household, no matter what her actual role in the household's affairs, or what her contribution to its maintenance, may be. By formal definition, a woman is considered to be the household head if (a) she is single, widowed or divorced, and no adult male is a household

* Sajogyo, 1983.

** This summary is based on a paper entitled "Faktor yang Mempengaruhi Status Sosial Ekonomi Rumah Tangga yang Dikepalai Wanita" (Factors Which Influence the Socio-Economic Status of Female-Headed Households) by the Social Statistics Analysis Division of the Central Bureau of Statistics, 1987.

member; or (b) she is currently married but her husband has been away from home for 6 months or longer. In cases where a man has more than one wife, he is counted as head of the first wife's household only.

Until recently relatively little has been known about this "minority" household/family unit and its implications for the welfare of children and for the status and well-being of women themselves. A recent exploratory study by the Central Bureau of Statistics adds an important dimension to knowledge of households headed by women, and provides important clues to the condition of a very substantial number of women and their families. Based on 1980 census data, the study (a) describes the women who head households and compares them with male household heads and with all adult women; (b) compares the socio-economic situation of female-headed households with all households; and (c) attempts to identify the major factors which influence the socio-economic status of households headed by women.

The following section describes briefly the main characteristics of households headed by women and of the female household heads themselves.

- 80 per cent of female-headed households are located in rural areas. These households tend to be relatively small: 62 per cent consist of 1-3 members, while among male-headed households only 27 per cent have fewer than 4 members.

- 10 per cent of the households have one or more children under the age of 5, vs. 48 per cent of male-headed households; children aged 5-10 are present in 18 per cent and 47 per cent of female- and male-headed households respectively; 24 per cent and 46 per cent, respectively, have children in primary school; 7 per cent vs. 3 per cent have children aged 10 and above who work.

- On several indicators of housing quality such as type of floor and walls, type of lighting, water supply and toilet facilities, households headed by women are consistently inferior to the average Indonesian household. The discrepancy is even more pronounced when household possessions are considered. For example, 31 per cent of the female-headed households have a cooking stove, vs. 36 per cent for all households; 20 per cent have a bicycle, vs. 34 per cent; 26 per cent have a radio or cassette player, vs. 41 per cent; 6 per cent have TV vs. 10 per cent nationally.

- Only 27 per cent of female heads can read and write, as compared with 61 per cent for all females and 79 per cent for males. 89 per cent have never attended school or did not complete primary school; for all women the figure is 60 per cent and for men 54 per cent.

- Women who head a household work in far larger proportion than all women (58 per cent vs. 32 per cent), but less frequently than men (67 per cent). Three-quarters of female labour force participants, whether or not they are household heads, are employed in traditional or informal sectors of the economy. For men, the proportion working in informal and traditional sectors is two-thirds. The main differences between female household heads and women labour force participants in general are that: very few (4 per cent) of the household heads are family labourers, whereas 30 per cent of all women workers and 12 per cent of the male workers are so employed; and many more household heads are self-employed, either with or without other help--70 per cent, vs. 46 per cent for all women and 55 per cent for men.

From the above description it is clear that female-headed households tend to fall into a low or lower-middle economic category, and this may pose certain risks to young children and women. However, there is a need for more exact understanding of the composition of female-headed households so that the implications for child survival and development of the conditions discussed above can be more fully assessed.

The Central Bureau of Statistics has taken a step in this direction. Using a sample of almost 53,000 households from the 1980 census drawn from the provinces of West Java, Bali and South Sulawesi, a multiple regression analysis was conducted to identify the characteristics of female heads which contribute significantly to the socio-economic well-being of their households (as measured by housing quality, household possessions and household facilities or amenities such as drinking water source, type of lighting, toilet facilities, etc.).

Four explanatory variables--education, type of economic activity, hours of work per week and woman's age--were able to account for a total of 21 per cent of the variation in the measure of household socio-economic level. Most of the explanatory power lies in the education variable, which alone "explained" 18 per cent of the variation, with the remaining 3 variables contributing about 1 per cent each.

G. THE ROLE OF WOMEN IN NATIONAL DEVELOPMENT

Women's Organizations

Historically, Indonesian national development has been marked by close co-operation between government and non-governmental organizations, particularly women's organizations. Since they first emerged in the second decade of this century, women's organizations have played an active role in Indonesian political, social and economic life. The policies and programmes of these organizations have been generally oriented toward supporting government's national development efforts.

Almost all of these organizations now promote functional literacy or non-formal education programmes of one sort or another. Over 90 per cent of all kindergartens, for example, are run by women's organizations. They are also active in formal education, from primary to university level.

Many organizations run maternal clinics providing MCH and family planning services, and have been active in organizing and staffing integrated health service posts (*Posyandu*, see Chapter III). Legal literacy has also been a common theme in the programmes of women's organizations and foundations, particularly in recent years.

These organizations are often grouped together under an umbrella organization which can be highly effective in lobbying and advocacy at the national level. *Kowani* (Indonesian Women's Congress), for example, is comprised of 64 nation-wide women's organizations, ranging from professional groups such as the Association of Midwives, the Association of Indonesian Businesswomen and the Association of Female Indonesian Teachers, to religious associations, including *Aisyiyah*, *Muslimat NU*, *Wanita Islam*, and *Persatuan Wanita Tarbiyah Islamiyah* (all Muslim groups), and the Association of Christian Women, Catholic Women of the Republic of Indonesia, and the Association of Buddhist Women. Several major youth organizations are also members of *Kowani*. Founded in 1928, *Kowani* today represents an estimated 20 million women through its member organizations.

Kowani maintains formal co-operation with practically all government bodies. Members of its Executive Board have been active in working groups or committees established by several government departments, particularly the Office of the State Minister for the Role of Women, the Department of Information and the Department of Education and Culture, and in this way the federation and its member organizations participate in the policy-making process at the national level, including the formulation of the Basic Guidelines of State Policy.

This federation is recognized as the accredited National Council of Women of Indonesia, and has been a member of the ASEAN Confederation of Women's Organizations (ACWO) since 1981 and the International Council of Women (ICW) since 1973.

Other federations of women's organizations exist at provincial and district levels, with similar functions. There are no structural relations between *Kowani* and the provincial BKOW (*Badan Kerjasama Organisasi Wanita* or Women's Co-operative Council) or the district-level GOW (*Gabungan Organisasi Wanita*, or Federation of Women's Organizations), but *Kowani* is expected to provide guidance to these federations on programme-related matters, and representatives of the BKOWs from all 27 provinces are invited to attend *Kowani's* congresses, held in every five years.

Dharma Wanita, established in 1974, has nearly 10,000 units and sub-units throughout the country. Its members are the wives of civil servants, and its activities support government social development programmes such as functional literacy, family planning, health, nutrition, environmental preservation and co-operatives. *Dharma Wanita* runs thousands of kindergartens, schools for the handicapped, primary schools, junior and senior high schools, and vocational schools at both primary and secondary levels, and is also an active supporter of charities.

Organizations for the wives of armed forces personnel--*Persit Kartika Chandra Kirana* (Army), *Jalasenastri* (Navy), *Pia Ardhya Garini* (Air Force) and *Bhayangkari* (Police), plus the Armed Forces Family Welfare League--are grouped together under the *Dharma Pertiwi*. *Dharma Pertiwi's* activities cover various fields, particularly education and social welfare, primarily tar-

has set up over a thousand kindergartens and more than 200 primary schools, as well as a number of junior and senior high schools, vocational and technical schools, and schools for the handicapped. Like *Dharma Wanita*, *Dharma Pertiwi* also engages in charity activities.

The PKK (Family Welfare Movement) is not an organization with a registered membership, but rather a voluntary movement consisting mostly of women. PKK activities are focussed in villages and urban neighbourhoods. Volunteers are supervised by motivating teams formed at national, provincial and local levels, which facilitate and monitor activities at lower levels. The Chairperson of the National PKK Motivating Team is the wife of the Minister of Home Affairs, and this structure is generally paralleled at lower levels, with the governor's wife chairing the province motivating team, the bupati's wife the district team, and so on. At village level, the PKK forms one section of the Village Development Council (LKMD)--also made up of volunteers--which is responsible for enhancing community participation in the planning and implementation of local development activities. The chairperson of the village PKK Motivating Team also serves as the vice-chairperson of the Village Development Council.

PKK got its start as a family life education pilot project in a single village in Central Java in 1969. With support from the Directorate of the Family Life Non-Formal Education Programme, the provincial government of Central Java, and *Pertiwi* (the association of wives of officials in the Department of Home Affairs), it soon spread throughout Central Java. The government recognized its potential for community development, and PKK was officially recognized as a nation-wide movement in 1975. Thereafter, it rapidly spread throughout the country.

PKK's objective is to reach directly as many families as possible. Its strategy is to organize households into units of 10 to 20 whose members select a chairperson to record and report on pregnant and lactating women and the immunization status of under-fives, to identify illiterates for non-formal learning groups, and assist the village PKK in mobilizing community participation in village development activities.

There are presently about 1.5 million PKK volunteers actively involved in village level social development programmes carried out in almost all of Indonesia's 67,000 villages. The PKK volunteers have played a key role in organizing and implementing *Posyandu* and in motivating mothers to utilize these services. The PKK section of the LKMD is formally responsible for family health and nutrition, housing, environment and sanitation, women's education, and income-generating activities.

In recognition of its role as a primary force for raising awareness raising and mobilizating support for CSD and health development in Indonesia, PKK received both UNICEF's Maurice Pate Award and the World Health Organization's Sasakawa Health Prize in 1988.

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